

RPT-TRUW-05, Rev. 35

Waste Matrix Code Reference Manual

Advanced Mixed Waste Treatment Project

(Signature on file. See DCR-13264.)

03/19/14

Date

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

REVISION LOG

Revision Number	Date Approved	Pages Affected	Description of Revision
0	05/11/03	All	DCR-2250, Initial issue.
1	06/10/04	All	Re-sorting the tables according to IDC rather than Waste Matrix Code. Added in newly documented packaging configuration for RF 001. Included additional detail for MD-834, MD-835, and MD-836. Added BN 512, AE 100, AE 101, AE 102, AE 104, AE 105, AE 106, AE 107, AE 110, AE 111, AE 120, AE 121, BL 081, BL 012, BL 015, BL 030, ID 150, ID 152, ID 153, ID 154, ID 155, ID 156, ID 160, ID 161, ID 162, ID 163, ID 164, ID 157, ID 021, ID 601, ID 175.
2	3/03/05	Page 48	DCR-4021-Replaced waste matrix code S5129 with S3119.
3	07/14/05	Various	DCR-4228. Added Mound IDC 810. Added IDC 812 information to IDCs 801, 802, 803 and 804. Added IDC 832 information to IDCs. Added information regarding packaging for the RF wastes repackaged during the BIN program. Replaced acronym RFP with RF.
4	08/19/05	All	DCR-4463. Added clarification concerning which IDCs can and cannot be shipped to WIPP. Updated and corrected WMCs to reflect information in TRUW-6 and -12.
5	10/11/05	Various	DCR-4558. Revised to add newly approved AK information.
6	10/13/05	25 and 39	DCR-4621. Minor change to correct errors in Rev. 5.
7	1/10/06	3, 48, and 75	DCR-4720. Change the WMC for resins (IDCs RF 432 and RF 822).
8	2/24/06	All	DCR-4786. Added new section to provide additional information concerning expected variations in waste composition and packaging configurations, reformatted tables to add or clarify information (e.g., waste in boxes, WIPP acceptable), incorporated AKRs, added new IDCs, and added information to waste stream descriptions.
9	03/06/2006	All	DCR-4846. Insert Appendix A, correct references, and incorporate revised AKR-05-331.
10	04/05/06	Various	DCR-4872. Revise Sections 3.1.2 and 3.34, incorporate AKRs, and make additional corrections throughout.

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Revision Number	Date Approved	Pages Affected	Description of Revision
11	06/13/06	Various	DCR-5007. Revise Section 1.0 to address audit observations concerning the use of the report. Revise Section 4.0 to make corrections throughout, including updating WMC/IDC names to match TWBIR/WTS, deleting newly generated IDCs (ID 000, RF 000, BN 502, BN 503, BN 504, BN 506, BN 512, BN 513, BN 513, BN 514, and RF 9999) that are no longer needed, and adding clarification concerning use of generator area codes in WTS to identify the generator of INL waste instead of the generator site code, ID. For certain IDCs (302, 33A, 33B, 330, 336, 337, 464, 831, 832, and 833), change WMC to S5300 and change the WMC description to "Organic Debris."
12	08/08/06	Various	DCR-5122. Revised to provide clarification, update new information, and make minor corrections to waste matrix codes.
13	09/14/06	Various	DCR-5284. Revised to add/correct information concerning prohibited items (including adding new Section 3.4) for implementation of corrective action identified from CBFO CAR 06-036, TrackWise CAR 23463. Also changed the WMC for IDC RF 374 to S5490 and added information to Special Notes for IDC RF 003 concerning PCB Mass weight.
14	10/26/06	Various	DCR-5421. Revised to add/correct information for IDCs RF 337, RF 338, RF 371, RF 376, RF 480, RF 481, RF 48A, SD 704, SD 705, and SD 706 which included addressing corrective actions identified in NCRs 23821, 23895, and 23932. Added information concerning packaging configurations and prohibited items to Sections 3.3 and 3.4. Added applicable references to Section 5. Add column of WMCs to Appendix A.

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Revision Number	Date Approved	Pages Affected	Description of Revision
15	11/30/06	Various	DCR-5511. Added information to effected IDCs concerning when an IDC is not required if the proposed change is to another IDC included in the same approved waste stream. Corrected WMCG designation for metal waste assigned to BN296. Incorporated information from AKR-04-43, AKR-04-75, and AKR-05-358. Changed the WMCs for RF crucibles, grit and other debris waste as documented in AKR-05-239 R1, AKR-06-427, AKR-06-428, and AKR-06-429. Added information to clarify when a WMC change is required for IDCs that contain homogeneous solids, soil/gravel, and/or debris. Revised waste definitions to match WAP. Added information concerning use of generator codes, prohibited items, and PCB waste. Changed “secondary waste” to “other waste” throughout the document. Deleted IDC SD 703.
16	04/03/07	All	DCR-5830. Update descriptions to include atypical waste items identified in AK documents (including historical RTR/VE). Update description for IDCs SD 704, SD 705, and SD 706 to include information from AK Summary report. Update descriptions for RF 371 to clarify cinderblocks acceptable as in primary waste form in individual containers.
17	07/03/07	Various	DCR-6129. Add clarification to Table 3-1 concerning estimation of waste parameters. Add new IDCs UN 000 and UN 00D and revised name and description for IDCs UN 00A, UN 00B, and UN 00C for temporary IDCs. Revise and/or update information for IDCs RF 002, RF 003, RF 007, RF 095, RF 337, RF 338, RF 371, RF 374, RF 376, RF 480, RF 490, BN 501, BN 505, BN 507, BN 508, BN 509, BN 511, BN 526, BN 530, BN 535, BN 603, BN 604, BN 605, RF 696 (RF 807b), BN 201, RF 800, RF 801, RF 802, RF 803, RF 807, MD 834, RF 950, RF 978, RF 990, and RF 995. Add IDCs RL 710, RL 711, RL 712, and RL 713 for Hanford waste. Add IDCs RF 741, RF 742, RF 743, RF 744, RF 745, RF 750, and RF 751 for Rocky Flats waste retrieved from Pits 11 and 12. Add IDCs BN 531, BN 607, BN 608, BN 609, BN 610, BN 611, BN 612, BN 613, BN 614, BN 615, BN 616, BN 617, BN 618, BN 619, BN 620, BN 621, BN 622, BN 623, BN 624, BN 625, BN 626, BN 627, BN 628, BN 629, and BN 630 for LLW and MLLW wastes. Update references to new style guide. Correct format of TRUCON codes in Appendix A. Make editorial changes.

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Revision Number	Date Approved	Pages Affected	Description of Revision
18	02/14/08	Various	DCR-6724. Add IDC RF-746. Change WMC for IDCs AE-100, RF-241, RF-960. Provide clarification concerning recommending IDC changes, indeterminate RTR/VE exams, and allowable amounts of other waste forms. Add waste description information (e.g., soils/gravel, absorbents, filters, and other waste forms). Add information concerning liquids found in homogenous solids and cemented solids found in debris waste. Add alternate packaging configurations (e.g., Kraft tubes). Add historical ID information. Add hyphen between generator designator and IDC number to match format used in WTS reports. Change titles in Waste Matrix Code Reference Tables and, as required, revise contents of Tables to only identify waste parameters for primary waste form. Change WMPs from Inorganic Matrix to Other Inorganic Materials for IDCs: ID-005, RF-005, RF-420, RF-421, RF-422, and RF-425.
19	08/19/08	Various	DCR-7429. Add IDCs ID-142, AW-165, AW-167, RF-010, RF-020, RF-030, RF-040, RF-050, RF-060, RF-070, RF-080, RF-747, RF-748, and RF-752. Updated packaging information for newly generated IDCs to reflect applicable procedure(s). Provide clarification concerning handling of empty aerosol containers, available versus not summarized information, and recommended IDC changes.
20	10/30/08	Various	DCR-7661. Correct description for revision 19. Add packaging information for newly generated IDCs. Correct information for IDC RF-748. Change generator area code for analytical waste to reflect waste generator is INTEC (i.e., change IDCs BN-526 and BN-603 to IDCs IC-526 and IC-603 in this report and in WTS). Provide additional information concerning PCBs and packaging configuration for ARP waste. Add information identifying containers that may contain U134 waste. Add information indentifying prohibited items found in MLLW/LLW boxes. Provide clarification to description of HEPA filters. Add section 3.3.5 to address drum filter vents. Provided clarification concerning use of area generator codes in this report and WTS for waste generated at INL facilities. Add special notes for IDCs RF-393, RF-420 and RF-422 concerning IDCs recommendations if waste form is cemented pucks instead of uncemented waste. Add information concerning use of X7000 and S9000 SCGs. General editorial changes.

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Revision Number	Date Approved	Pages Affected	Description of Revision
21	05/26/09	ALL	DCR-8239. Periodic review. Add Section 3.3.6. Add new IDCs IW-176 thru IW-179, NT-210 thru NT-220, BN-500, BN-518, BN-519, BN-520, BN-521, BN-631, BN-632, BN-633, BN-634, BN-635, RF-998, and RF-999. Updated information for IDCs IW-005, ID-142 (revised to AW-142), ID-154, ID-157, RF-241, RF-302, RF-336, RF-371, RF-432, RF-481, BN-501, BN-508, BN-510, BN-511, BN-604, BN-618 thru BN-620, BN-622, BN-625 thru BN-627, RF-741 thru RF-752, MD-847, and RF-960. Delete duplicate references and add new references. General editorial changes.
22	07/20/09	Various	DCR-8483. Periodic Review. Add IDCs BN-528, BN-529, BN-536, BN-537, BN-636, and BN-637. Change generator designator from ID to AW for IDCs AW-160 through AW-167. Change generator designator from ID to IC for IDCs IC-156 and IC-601. Revise WMCs for IDCs ID-150, AW-161 and AW-165. Revise WIPP status for IDC AW-164. Revise IDC descriptions for IDCs BN-520, BN-521, BN-634 and BN-635. Update information concerning prohibited items (based on RTR results). Update information in Reference Section. Update TRUCON code table in Appendix A. General editorial changes.
23	12/03/09	Various	DCR-8852. Add new IDCs BN-513, BN-514, BN-515, BN-522, IC-527, BN-538, RF-749, RF-753, and RF-754. Revise names of IDCs RF-095, RF-337, BN-501, BN-507, BN-509, BN-511, IC-526, IC-603, and RF-995. Update information concerning PCB and non-PCB wastes (including designating BN-501, BN-511, IC-526 and IC-603 as PCB wastes). Update special notes for UN IDCs and IDCs associated with leaded gloves. Change WMCs for RF-095, BN-603, and RF-995. Update information concerning roaster oxide and 30-gallon drums that may be present in waste retrieved from Pits 11 and 12. Add new references including CCP AK Summaries for NTS wastes. General editorial changes.

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Revision Number	Date Approved	Pages Affected	Description of Revision
24	06/16/10	Various	DCR-9294. Update list of generators in Section 2. Update information in Section 2 to reflect WIPP permit modification and generator information for RL and MFC. Add new IDCs PC-000, LL-212, LL-213, LL-221, GV-222, IW-526, IW-527, BN-550, IW-603, BN-702, RL-714, RL-716, and RF-760. Delete IDCs AW-142, RL-710, RL-711 and RL-713. Create new tables for IDCs AW-150 and IC-150. Revise the IDC names and descriptions for IDCs AW-160, AW-164, AW-165, AW-167, RF-374, BN-520, BN-521, BN-634, BN-635, and RL-712. Add NTS to names of IDCs NT-211, NT-212, and NT-213. Update IDC descriptions, packaging configurations, and special notes for AE, AW, BC and BL IDCs. Add SWB configuration for S3000 waste in approved profiles. Update special notes for waste received under the Offsite Waste procedures. Correct date for use of rigid liner at RF. Update acronym and abbreviations. Update information in Reference Section. Add BN222 to Appendix A. General editorial changes.
25	12/09/10	Various	DCR 9668. Revised special notes for IDCs UN-00A, UN-00B, UN-00C, and UN-00D. Revised names and descriptions of IDCs BN-500, BN-528, BN-529, and BN-537 to specify waste included in these IDCs. Revised description of IDCs BN-508, BN-509, BN-520, BN-521, BN-536, BN-604, BN-605, BN-607 through BN-617, BN-634, and BN-635 to specify wastes included in these IDCs. Added new IDC BN-534. Updated description of organic setups (IDCs RF-003, BN-511, and RF-743) to reflect solidified liquid. Updated description and special notes for IDC AE-100 to incorporate results of RTR examination. Updated description for IDC RF-337 to identify additional items that may be present in the waste. Updated special notes for IDCs RF-370 and RL-712 to incorporate results of RTR examinations. Revised “confirm” to verify” and added clarification concerning prohibited liquids throughout document to be consistent with WIPP WAP. Added Aquaset II-G [®] throughout document. Updated list of acronyms, references and Appendix A. General editorial changes.

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Revision Number	Date Approved	Pages Affected	Description of Revision
26	04/26/11	Various	DCR-10057. Revised Section 3 to identify RF and MD concerning variations in waste composition, absorbents, and packaging configurations. Added IDCs LA-002, LA-003, LA-005, LA-006, SL-223, SL-224, AW-225, SL-227, OR-250, SR-251, SR-252, SR-253, AE-254, SD-703, RL-715, RL-720, and SR-835. Revised Sections 3 and 4 to add abbreviated IDC table format for waste received under the AMWTP Offsite Waste Program and profiled by CCP. Added Section 3.5.7. Revised IDC tables for wastes from AW, NT, LL, GV, IC, SD, and RL generators to abbreviated format. Added IDCs IC-525 and IW-602 to segregate assigned P and U listed HWNs. Added IDCs BN-539 and BN-600. Revised waste descriptions and special notes for IDCs BN-500, BN-505, BN-507, BN-508, BN-509, BN-511, BN-513, BN-514, BN-515, BN-520, BN-521, BN-528, BN-529, BN-534, BN-604, and BN-605. Added clarification that “bulk” is “direct loaded” drums. Updated lists of acronyms, generator sites, and references. General editorial changes.
27	06/08/11	Various	DCR-10144. Added IDCs BN-523, BN-524, BN-525, BN-526, BN-527, BN-597, BN-598, BN-599, BN-602, and BN-603. Added offsite waste IDCs ND-228, LB-229, and SR-842. Revised name for IDC RF-760. Revised descriptions and/or special notes for IDCs RF-336, BN-500, BN-505, BN-508, BN-509, BN-511, BN-513, BN-515, BN-600, BN-604, BN-605, and RF-760. Updated lists of acronyms, generator sites, and references. General editorial changes and corrections.
28	09/01/11	Various	DCR-10322. Added Section 3.1.1.1 and clarified scope of Section 3.3.1. Updated and corrected information in Table 3.1. Added offsite waste IDC AE-230. Deleted WMCs and updated Special Notes for IDCs IW-005, IW-179, BN-519, RF-998, and RF-999 to reflect IDCs for overpack container configuration. Updated Special Notes for IW-176, IW-177, and IW-178 to include bin configuration. Revised information for IDCs AE-100, AE-101, AE-104, RF-004, BN-500, BN-508, BN-523, BN-524, BN-600, RF-751, and RF-760. Updated Special Notes to add prohibited items identified by RTR or VE examinations based on WTS query performed on 6/30/2011. Added TRUCON codes for waste stream BN600 in Appendix A. Updated list of references. General editorial changes and corrections.

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Revision Number	Date Approved	Pages Affected	Description of Revision
29	02/08/12	Various	DCR-10551. Corrected approval date of revision 28 in Revision Log. Modified UN-00A to clarify waste description, primary waste parameters, and special notes. Modified RF-004 to clarify Special Notes. Modified AE-100, AE-101, AE-102, AE-104, AE-105, AE-106, AE-107, AE-110, AE-111, AE-120, and AE-121 to reflect newly available AK. Changed name of AE-230. Add IDC SR-255. Removed RF-374a/697 and replaced it as RF-697. Add IDC BN-541. Modified BN-632 to clarify special notes. Modified BN-633 to clarify special notes. Removed RF-807b and replaced it as RF-696. Modified RF-751 to clarify special notes. Modified RF-760 to clarify waste description and special notes. Modified RF-802 to clarify special notes. Added references 248 – 263.
30	09/26/12	Various	DCR-11109. Updated Secs. 1.0, 2.0, 3.0, 3.2, 3.3.2, 3.5.6, and added section 3.5.7. Updated Waste Matrix Reference Tables for PC-000, UN-000, UN-00A, UN-00B, UN-00C, UN-00D, RF-003, RF-090, RF-095, AE-100, AE-101, AE-102, AE-104, AE-105, AE-106, AE-107, AE-110, AE-111, AE-120, AE-121, AW-150, ID-153, ID-154, ID-155, AW-160, AW-161, AW-162, AW-163, AW-164, AW-165, IW-179, BC-201, BC-202, BC-203, RF-241, BN-500, BN-501, BN-505, BN-508, BN-509, BN-510, BN-511, BN-513, BN-519, BN-520, BN-521, BN-528, BN-529, BN-534, BN-541, BN-598, BN-604, BN-633, RF-750, RF-752, RF-760, RF-807, MD-811, and RF-995. Deleted Waste Matrix Reference Tables for IW-176, IW-177, IW-178, RF-752, RF-754, and RF-748. Added Waste Matrix Reference Tables for SD-176, SD-177, SD-178, LA-250, SR-255, SR-256, SR-257, SR-258, SR-259, SR-260, SR-261, and CW-600. Added references 265 – 272. Deleted Appendix A.
31	01/31/13	Various	DCR-11950. Updated Acronyms and Abbreviations. Updated Waste Matrix Reference Tables for RF-003, AE-100, AE-101, AE-102, AE-104, AE-105, AE-106, AE-107, AE-110, AE-111, AE-120, AE-121, SD-176, SD-177, SD-178, IW-179, RF-480, BN-500, BN-501, BN-505, BN-509, BN-511, BN-513, BN-515, BN-519, BN-520, BN-521, BN-522, BN-531, BN-534, BN-535, BN-541, CW-600, BN-605, BN-633, RF-998, and RF-999. Added new Waste Matrix Reference Tables for SD-179, BN-180, and BN-540. Revised reference 248.

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Revision Number	Date Approved	Pages Affected	Description of Revision
32	07/16/13	Various	DCR-12476. Add IDCs LA-004, LA-007, LA-008, LA-009, LA-010, and BN-516. Multiple editorial changes.
33	10/29/13	Various	DCR-12708. Updated Waste Matrix Reference Tables for LA-007, LA-008, LA-009, BL-010, LA-010, BL-012, BL-015, BL-020, ID-021, BL-030, BL-040, BL-050, BL-081, AE-100, ID-150, ID-152, ID-153, ID-154, ID-155, ID-156, ID-157, AW-167, ID-175, SD-179, BN-180, ID-337, BN-500, BN-508, BN-516, BN-518, IC-526, IW-526, IC-527, IW-527, BN-540, BN-550, IC-601, IC-603, IW-603, RF-741, RF-742, RF-743, RF-744, RF-745, RF-746, RF-747, RF-749, RF-750, RF-751, RF-753, MD-842, MD-848, RF-998, and RF-999. Added Waste Matrix Reference Tables for IF-150 and IR-603. Removed tables for IC-150, IC-151, IC-525, and IC-602. Updated references. Made multiple editorial changes.
34	03/18/14	Various	DCR-13026. Extensively revised Sections 1, 2, and 3 to clarify and remove redundancy with Section 4. Updated Waste Matrix Reference Tables for UN-00B, RF-003, IW-005, LA-007, LA-009, LA-010, AE-100, AE-102, AE-105, ID-152, IC-156, SD-176, SD-177, SD-178, RF-371, RF-374, BN-500, BN-505, BN-508, BN-513, BN-516, BN-520, BN-521, BN-522, BN-523, BN-538, BN-540, BN-550, BN-600, BN-702, RF-751, and RF-760. Added Tables for IC-150, IC-152, IN-152, IT-152, IR-154, IW-155, IA-157, IC-157, IF-157, IR-157, IT-157, IW-157, CW-216, IC-604, BN-638, and BN-770. Changed IDC descriptions for IC-156 and RF-760. Updated References. Multiple minor editorial changes.
35	03/19/14	Rev. Log	DCR-13264. Corrected the approval date previously entered in the Revision Log (Revision 34) from “3/14/18” to “03/18/14.”

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

CONTENTS

ACRONYMS AND ABBREVIATIONS xii

1.0 PURPOSE/SCOPE 1

2.0 GENERATOR SITE AND AREA CODES 3

3.0 GUIDANCE CONCERNING USE OF THIS MANUAL 4

 3.1 Expected Variations in Waste Composition 5

 3.2 Classification of Absorbents 6

 3.3 Waste Packaging Configuration Variations 6

 3.4 Prohibited Items 8

4.0 WASTE MATRIX CODE REFERENCE TABLES 12

5.0 REFERENCES 201

6.0 RECORDS 218

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

ACRONYMS AND ABBREVIATIONS

NOTE: *The two-letter abbreviations for generator sites and areas are listed in Section 2.0.*

ACL	Analytical Chemistry Laboratory (former name for MFC Analytical Laboratory)
AK	Acceptable Knowledge
AKE	Acceptable Knowledge Expert
AKR	Acceptable Knowledge Resolution
AL	Analytical Lab (at MFC)
AMWTF	Advanced Mixed Waste Treatment Facility
AMWTP	Advanced Mixed Waste Treatment Project
ANL-E	Argonne National Laboratory-East
ANL-W	Argonne National Laboratory-West
ARA	Auxiliary Reactor Area
ARP	Accelerated Retrieval Project
ATR	Advanced Test Reactor Complex (see TRA)
BAPL	Bettis Atomic Power Laboratory
CBFO	Carlsbad Field Office
CL	Casting Laboratory (at MFC)
CCP	Central Characterization Project
CFA	Central Facilities Area
CFR	Code of Federal Regulations
CPP	Chemical Processing Plant
D&D	Decontamination and Decommissioning
DOE	Department of Energy
DRF	Drum Repackaging Facility
DTF	Drum Treatment Facility
DU	depleted uranium
DWPG	Drum Waste Packaging Glovebox
EFL	Experimental Fuels Laboratory (at MFC)
EMOP	eight-drum metal overpack pallet
EWR	Early Waste Retrieval project
FMF	Fuel Manufacturing Facility
FRP	Fiberglass reinforced plywood (a.k.a. fiberglass reinforced polyester)
GE	General Electric
GGE	Gas Generation Experiments
HFEF	Hot Fuel Examination Facility
HRA	Hot Repair Area
HWN	Hazardous Waste Number
ICP	Idaho Cleanup Project
IDC	item description code
INEEL	Idaho National Engineering and Environmental Laboratory
INL	Idaho National Laboratory

<p><i>Advanced Mixed Waste Treatment Project</i> Waste Matrix Code Reference Manual</p>
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INTEC	Idaho Nuclear Technology and Engineering Center (formerly called CPP)
ITRI	Inhalation Toxicology Research Institute
IWTS	Integrated Waste Tracking System
LANL	Los Alamos National Laboratory
LBNL	Lawrence Berkeley National Laboratory
LDR	land disposal restriction
LLNL	Lawrence Livermore National Laboratory
LLW	low-level waste
LRC	Lynchburg Research Center
MFC	Materials and Fuels Complex
MLLW	mixed low-level waste
NCR	Nonconformance Report
NDA	nondestructive assay
NMAC	New Mexico Administrative Code
NRD	Nuclear Radiation Development LLC
NRF	Naval Reactor Facility
NTS	Nevada Test Site
OASIS	Organic and Sludge Immobilization System
ORNL	Oak Ridge National Laboratory
PBF	Power Burst Facility
PCB	polychlorinated biphenyl
PFP	Plutonium Finishing Plant
PK	process knowledge
Poly	polyethylene
PPE	personal protective clothing
RBDA	Risk Based Disposal Authorization
RCRA	Resource Conservation and Recovery Act
RFETS	Rocky Flats Environmental Technology Site (formally known as RFP)
RFP	Rocky Flats Plant
RH	remote handled
RWMC	Radioactive Waste Management Complex
RTR	real-time radiography
RTV	room-temperature vulcanizing
SAND	Box designed by Sandia Laboratory in Albuquerque, NM
S/C	Supercompaction
SCW	Special Case Waste
SCG	Summary Category Group
SDA	Subsurface Disposal Area
SDOP	Six-Drum Overpack
SMOP	six-drum metal overpack pallet
SNL	Sandia National Laboratory
SRS	Savannah River Site
SS&C	sand, slag, and crucible

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

TAN	Test Area North
TID	tamper indicating device
TRA	Test Reactor Area (see ATR)
TRAMPAC	TRU Waste Authorized Methods for Payload Control
TRU	Transuranic
TRUCON	TRU Waste Content Codes
TSA-RE	Transuranic Storage Area-Retrieval Enclosure
TWBIR	Transuranic Waste Baseline Inventory Report
VE	visual examination
VNC	Vallecitos Nuclear Center
WAP	Waste Analysis Plan
WCA	Waste Characterization Area
WETP	WIPP Experimental Test Program
WIPP	Waste Isolation Pilot Plant
WMC	Waste Matrix Code
WMCG	Waste Matrix Code Group
WMP	Waste Management Profile
WSPF	Waste Stream Profile Form
WTS	Waste Tracking System

Advanced Mixed Waste Treatment Project **Waste Matrix Code Reference Manual**

1.0 PURPOSE/SCOPE

This report is a reference manual that provides waste generation information, waste packaging configurations, and physical waste form descriptions (including waste material parameters [WMPs]), for real-time radiography/visual examination (RTR/VE) operators and validators. This information is provided to ensure proper assignment of Summary Category Group (SCG) and Waste Matrix Codes (WMC) following best management practices at the operations level. SCGs and WMCs are verified by the operators during RTR and VE in support of TRU Programs characterization activities in accordance with MP-TRUW-8.2, Quality Assurance Project Plan.⁸⁵ The RTR and VE data collected during verification of SCGs and WMCs may also be used by the low-level waste/mixed low-level waste (LLW/MLLW) Programs or the Offsite Waste Program. This report also includes waste form information for newly generated item description codes (IDCs), including IDCs used by the LLW/MLLW Program.

For containers eligible for shipment to Waste Isolation Pilot Plant (WIPP), operators will examine container contents and packaging characteristics to: 1) verify that the physical form matches the waste stream description and the WMC (and IDC as appropriate), 2) estimate each of the waste material parameter weights based on these observations, and 3) identify any WIPP prohibited materials.

The terms *Summary Category Group*, *Waste Matrix Code Groups*, and *Waste Matrix Code* are used throughout the WIPP Waste Analysis Plan (WIPP-WAP) and pertain to a collection of descriptive titles, definitions, and associated numerical codes used to classify mixed waste at Department of Energy (DOE) facilities. The SCGs, which identify the physical form, consist of three broad categories: Homogeneous Solids (S3000), Soil/Gravel (S4000), and Debris Waste (S5000). The Waste Matrix Code Groups (WMCs) include 11 waste stream groupings related to the physical and chemical properties of the waste. The WMCs, which are subcategories of the three SCGs and the 11 WMCs, address the bulk physical/chemical form (i.e., matrix) of the waste.

The WMCs are defined in the WIPP-WAP and include the following 11 groups: solidified inorganics, solidified organics, salt waste, soils, lead/cadmium metal, inorganic non-metal waste, combustible waste, graphite, filters, heterogeneous debris waste, and uncategorized metal. WMCs (a.k.a., matrix parameters) are defined in DOE/LLW-217, DOE Waste Treatability Group Guidance.²⁷⁶

If a container of waste does not include at least 50% by volume of any given SCG, the SCG constituting the greatest volume of waste will be used to describe the waste. SCGs have been assigned to the waste based on acceptable knowledge (AK) and the following WIPP criteria:

- S3000 homogeneous solids include waste that is at least 50% by volume solid materials, excluding soil, that do not meet the WIPP criteria for classification as debris. Examples include inorganic process residues (e.g., incinerator ash, digestion heels, absorbed liquids, solidified liquids), inorganic sludges, organic sludges, salt waste (e.g., evaporation), and pyrochemical salt waste.
- S4000 soil/gravel includes waste that is at least 50% by volume soil/gravel (natural geologic material <2.36 inches [60 millimeters]).

Advanced Mixed Waste Treatment Project **Waste Matrix Code Reference Manual**

- S5000 debris waste includes heterogeneous waste that is at least 50% by volume materials that meet the criteria specified in 20.4.1.800 New Mexico Administrative Code (NMAC). Debris is defined as solid material exceeding 2.36 inch (60 millimeter) particle size that is:
 - A manufactured object
 - Plant or animal matter
 - Natural geologic material.

According to the WIPP-WAP, particles smaller than 2.36 inches (60 millimeters) in size may be considered debris if the debris is a manufactured object(s) and if it is not a particle(s) of S3000 or S4000 material.

NOTE: *X7000/X7211/X7900 (Special Waste) and S9000 (Unknown/Other Solids) may be temporarily assigned as SCGs to waste where additional AK and/or RTR/VE data is required before a final WMC can be assigned (e.g., AE-106, AE-107, BL-012, BL-015, BL-040, BL-081, BL-338, MD-815, RF-080, RF-980, PC-000, and UN-000).*

Summary Category Groups, WMCGs, and WMCs have been assigned to TRU IDCs listed in this report based upon the assigned IDC. This includes potential TRU or potential WIPP candidate IDCs. Low Level Waste and MLLW program IDCs are excluded from this assignment. Additional AK information (including waste description, packaging configuration, drum preparation, waste parameters, and special notes) is obtained from a comprehensive AK database and may be augmented by data collected during RTR/VE examinations.

The comprehensive AK database undergoes routine update. AK information is being routinely developed, documented, and added to the official AK record. Periodic queries are run as additional AK information is obtained. This document will be revised to reflect additional AK information that may be used to verify the SCG/WMC assignments, update waste descriptions or packaging, and/or to provide additional information into special notes.

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

2.0 GENERATOR SITE AND AREA CODES

The following two-letter codes are used to identify the generator site and generator area for the waste stored at the Idaho National Laboratory (INL). For this report, the two-letter site code is used to identify the generator of a waste except for certain INL area generators as identified below. In the Waste Tracking System (WTS) either the site code or area code is used for the INL area generators. UN is used as a temporary IDC designator that reflects a waste with an “undetermined” form or an “undefined” IDC during characterization activities.

Site Code	Area Code	Description
AE	–	Argonne National Laboratory-East (ANL-E)
BC	–	Battelle Columbus Laboratory
BL	–	Bettis Atomic Power Laboratory (BAPL)
BW	–	Babcock and Wilcox
BX	–	Bendix-Grand Junction Operation Office
CW	–	CH2M-WG Idaho
GV	–	General Electric Vallecitos Nuclear Center (VNC)
ID ^a	AW	INL Materials and Fuels Complex (formerly called ANL-West [ANL-W])
ID	BN	INL Advanced Mixed Waste Treatment Project (formerly called BNFL)
ID ^a	IA	INL Auxiliary Reactor Area (ARA)
ID	IC	INL Idaho Nuclear Technology and Engineering Center (INTEC), formerly called Chemical Processing Plant (CPP)
ID ^a	IF	INL Central Facilities Area (CFA)
ID ^a	IN	INL Naval Reactor Facility (NRF)
ID ^a	IP	INL Critical Infrastructure Test Range Complex (formerly called INL Power Burst Facility [PBF])
ID ^a	IR	INL Advanced Test Reactor Complex (formerly called Test Reactor Area [TRA])
ID ^a	IT	INL Test Area North (TAN)
ID ^a	IW	INL Radioactive Waste Management Complex (RWMC)
ID	SD	INL Subsurface Disposal Area (SDA)
JH	–	J. C. Haynes, Ohio businessman who irradiated diamonds with ²⁴¹ Am
LA	–	Los Alamos National Laboratory (LANL)
LB	–	Lawrence Berkeley National Laboratory (LBNL)
LL	–	Lawrence Livermore National Laboratory (LLNL)
MD	–	Mound Laboratory
MO	–	Monsanto-Dayton Laboratory
MX	–	Americium-241 waste from a smoke detector manufacturing company in Mexico
ND	–	Nuclear Radiation Development, LLC (NRD)
NT	–	Nevada Test Site (NTS)
OR	–	Oak Ridge National Laboratory (ORNL)
RF	–	Rocky Flats Plant (RFP) (subsequently known as Rocky Flats Environmental Technology Site [RFETS])
RL	–	Hanford Site (Richland, Washington)
SD	–	Subsurface Disposal Area
SL	–	Sandia National Laboratories (SNL)
SR	–	Savannah River Site (SRS)

a. The two-character site code “ID” is used in this report to summarize a group of subsidiary area codes with the same characteristics. Either the site code “ID” or the area codes “AW, IA, IF, IN, IP, IR, IT, or IW” may be used in WTS to identify the INL area generators.

Advanced Mixed Waste Treatment Project Waste Matrix Code Reference Manual

3.0 GUIDANCE CONCERNING USE OF THIS MANUAL

Table 3.1, Explanation of Reference Table Content, provides a detailed template of the information found in Section 4.0 by IDC. References that augment the AK reports or that are specific to individual IDCs, waste generators, or waste streams are identified by superscripts within this document.^{4, 5, 50, 54, 180, 181} The information for newly generated IDCs, including IDCs for LLW/MLLW, may only identify the IDC assignment. The IDC descriptions for LLW and MLLW are obtained through Waste Services (WS) or offsite waste personnel. Newly generated LLW and MLLW information is updated at the request of WS or the MLLW program. Abbreviated tables are provided for IDCs associated with waste received under the Advanced Mixed Waste Treatment Project (AMWTP) Offsite Waste Program that will be characterized and profiled by Central Characterization Project (CCP). The waste stream description, composition, packaging, and prohibited items information for these wastes are available from the AMWTP offsite waste coordinator.

In addition to identifying the SCG, WMC, and WMCG for IDCs, the WMC reference tables in Section 4.0 provide other information associated with each IDC. These tables provide a description of the waste that identifies the expected primary waste form(s), as well as the other waste forms (including absorbent) that may be associated with assigned IDCs. These tables also include a description of the packaging configurations (including applicable inner containers), identification of the expected waste parameters for the primary waste form(s), special notes that provide other pertinent information (e.g., potential prohibited items, recommended IDC changes, variations within the waste, or historical ID configuration). Fields within Table 3.1 are updated as applicable AK information or RTR/VE results are received.

General information associated with individual generators that is not specific to any given IDC is described in Section 3.1 and includes:

- Other waste types that may be found in individual containers of a specific IDC
- Absorbents that may or may not be present.
- Container packaging variations (e.g., type/number of packaging layers, use of plywood spacers, and identification of 30-gallon drums).

Variations identified by AK and/or by characterization activities (e.g., RTR or VE) that are specific to an IDC are incorporated into the tables found in Section 4.0 upon receipt (or development) of applicable AK.

The WMC reference tables in Section 4.0 are arranged in order by the IDC number first and generator second.

Advanced Mixed Waste Treatment Project Waste Matrix Code Reference Manual

3.1 Expected Variations in Waste Composition

The following sections are the expected variations in waste composition.

3.1.1 RF, AE, AW, BC, ID, and SD Waste

Waste packages may contain waste forms other than the waste form associated with the IDC assigned to the container. 2 Examinations (RTR and intrusive VE) of containers have verified the occurrence of this condition. The other waste forms may include, but are not limited to, the following: ²⁴

- Combustibles (paper, cardboard, rags, cloth towels, booties, gloves, etc.)
- Plastic (bottles, tubing, bags, sheeting, etc.)
- Wood (filter frames, handles, etc.)
- Rubber (gloves, gaskets, hose, etc.)
- Glass (bottles, vials, Raschig rings, beakers, etc.)
- Lead (glass, tape, gloves, scrap, aprons, etc.)
- Metal (nuts, bolts, nails, cans, welding rods, tools, wire, scrap, etc.)
- Other debris (filters, concrete, light bulbs, D-cell batteries, lead cell batteries, etc.).

The presence of these other waste forms does not impact the WMC or hazardous waste number (HWN) assignment unless the amount of these other waste forms exceeds 50% of the container's contents and either:

1. The other waste forms do not support the assigned WMC for the container, or
2. The presence and volumes of other waste forms would require a new waste stream or a revision to the existing waste stream.

If a WMC and/or waste stream assignment change is required on a WIPP certified RTR/VE, a Nonconformance Report (NCR) and Acceptable Knowledge Resolution (AKR) are also required. ^{85, 86}

NOTE: *An IDC change is not required if the proposed IDC change is to another IDC within the same direct ship Waste Stream Profile Form (WSPF) because there is no change in the WMC (see special notes for affected IDCs).*

3.1.2 MD Waste

Waste management protocol at MD did not require that all waste placed in a container have the same IDC. For example, a drum labeled as IDC MD-803 (Metal Equipment, Pipe, Valves) contains cartons/cans of metal wastes but may also contain cartons/cans of other non-combustible wastes such as asbestos filters, glass, spun-glass/fiberglass filters, sludge, and mercury. ^{32, 33, 34, 35} RTR examination of containers of MD debris waste has also verified that the MD debris waste is not well segregated by IDC/waste form and that combustible and non-combustible waste may be found in the same container. ³⁰

Advanced Mixed Waste Treatment Project Waste Matrix Code Reference Manual

Due to the lack of segregation by IDC/waste form at the drum level, the MD debris waste was assigned the WMC S5490, Unknown/Other Heterogeneous Debris.¹⁸ A single WSPF was developed and approved for MD debris waste. This WSPF (designated BN304) includes IDCs MD-801, MD-802, MD-803, MD-804, MD-805, MD-810, MD-813, MD-814, MD-825, MD-827, and MD-848. Therefore, an IDC change is not required if the proposed change is to another IDC within waste stream BN304. Waste stream BN304 is inactive and the IDCs in BN304 are included in the supercompacted waste stream (BN510 and revisions).

IDC MD-847 bulk (direct loaded) combustible waste is not included in the MD debris WSPF BN304. If a container with one of the IDCs listed for the BN304 waste stream contains greater than 50% (by volume) bulk or direct loaded combustible debris that is not packaged in cans or cartons, the IDC must be changed to MD-847.

3.2 Classification of Absorbents

The presence (or absence) of absorbent in a container does not necessarily impact the characterization (IDC/WMC assignment). If the absorbent (i.e., S3000) is greater than 50% by volume of the waste in debris waste containers (i.e., S5000 SCG), RTR recommends an IDC change, and an AK evaluation will be performed. Based on current AK information, the types of absorbent identified in this document do not impact the characterization.^{31, 36}

3.3 Waste Packaging Configuration Variations

The packaging configurations documented in Section 4.0 reflect the expected packaging configurations based on the waste management practices identified in AK source documents and/or RTR/VE results. Individual containers may have packaging configurations that differ from those reported for the IDC identified in Section 4.0.^{23, 26, 28, 29, 43, 56, 62, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115}

Common variations in packaging configuration identified by AK and RTR/VE reports do not require an AK evaluation unless otherwise noted. The variation in expected packaging configuration between bulk or direct loaded S3000 homogeneous solids waste (e.g., waste placed directly into drum rigid liner or drum bag liner) versus S3000 homogeneous solids waste packaged in small inner containers or bags requires an AK evaluation unless the variation is already identified for the IDC in Section 4.0. An AK evaluation may be requested for a packaging configuration not identified in this document.

3.3.1 Bulk versus Inner Container Packaging for S3000 Wastes

Some S3000 homogeneous solids waste is packaged in small containers (e.g. poly bottles, cans, or small plastic bags). Examples of generators that could contain these homogeneous solids waste packaged in small containers include RF, AE, AW, BC, ID, SD, and BL. For some drums assigned S3000 IDCs, the volume of packaging (e.g., cans, poly bottles, small plastic bags, clamshells) exceeds the volume of homogeneous solids waste. If the quantity of debris by volume (including inner packaging) exceeds the volume of S3000 waste, an AK evaluation is requested by the RTR operator/VE by recommending an IDC change. For some S5000 assigned IDCs, the S3000 volume exceeds the debris volume excluding the S3000 packaging. If the quantity of homogenous solids by volume (excluding inner packaging) exceeds the volume of debris waste, an AK evaluation is requested by the RTR operator/VE by recommending an IDC change. The acceptable knowledge expert (AKE) will determine if an IDC change is required or if the original IDC assigned to identify homogeneous solids should be retained.

Advanced Mixed Waste Treatment Project Waste Matrix Code Reference Manual

3.3.2 MD Plywood Spacers

Plywood spacer(s) from ¼- to ¾-inch thick were placed between the rigid liner lid and the drum lid before the drum lid was installed on drums containing IDCs MD-801, MD-802, MD-803, MD-804, MD-810, MD-811, MD-813, MD-814, MD-825, MD-827, MD-834, MD-835, MD-836, MD-847, and MD-848. Melamine (masonite) spacers have also been found in MD drums. The absence or presence of plywood spacers in any drum of waste from MD does not impact the assignment of IDC, WMC, or HWNs, and the characterization and acceptability of the drums are not impacted by this variation of packaging configuration.^{3, 25}

NOTE: *The other waste characteristics (e.g., assay results, waste contents consistent with IDC) should be evaluated to ensure that the waste generator designation is correct for those MD containers without plywood spacers.*

3.3.3 Container Types

The following are the typical container types for the generator sites. However, other container types may have been used.

3.3.3.1 RF Container Types

RF 55-gallon drum chines (a.k.a., chimes) are larger and more distinct than the chines on MD drums.

RF used a variety of boxes during the period that RF shipped waste to INL. Prior to 1982, RF used fiberglass reinforced plywood (FRP) boxes. Most RF FRP boxes have interior flush (ribbed on the outside) but some RF FRP boxes have exterior flush (smooth on the outside). RF FRP boxes typically have four evenly spaced skids (runners or manufactured cribbing), but some RF boxes may have five skids. Beginning in 1982, RF also packaged waste in SAND boxes. The SAND boxes are made of corrugated steel with or without additional support.^{75, 101}

NOTE: *One or more skids may be missing from some boxes, but evidence of spacing may still be visible on the bottom of the box.*

3.3.3.2 MD Container Types

MD 55-gallon drums are taller than RF drums and the chines on MD drums are smaller and more rolled than the chines on RF drums. MD drums also have the year of manufacture on the bottom of the drum (e.g., '79'). MD drums are sealed with a padlock-type yellow tamper indicating device (TID) with Mound stamped on one side and the TID seal number stamped on the other side.^{16, 101}

MD used FRP boxes typically with exterior flush (smooth on the outside), five evenly spaced skids (runners or manufactured cribbing), and a yellow-painted horizontal stripe; however, some boxes may have interior flush (ribbed on the outside) and the number of skids may vary from five. Mound boxes also have a metal plaque with a serial number that is a portion of the historical ID.¹⁰¹

Advanced Mixed Waste Treatment Project Waste Matrix Code Reference Manual

NOTE: *Some RF FRP boxes also may have exterior flush and five skids so validation of MD boxes requires at least one other attribute (e.g., yellow-painted stripe and metal plaque) to determine generator. Only Mound painted a yellow stripe on FRP boxes.*

3.3.3.3 SD Container Types

Bins originally from the SDA generally have the following exterior characteristics. Not all of the bins will have every characteristic; however, waste bins from another generator will not have these characteristics.

The bins originally from the SDA have a container type – 007 or F (MIII/MIV bin – approximately 50 in. × 58 in. × 72 in.) and were deposited in the TSA-RE Pad R Cells 1 or 3 only. The bins are painted white and are 30% to 70% covered in rust. The box lid that fits over the box bottom is approximately 1.5 in. wide. Two lift hooks each are on opposite sides of the top of the bin. Affixed to one of the lift hooks, will be a blue NRTS TID that has historical information (e.g. month and year of packaging, historical ID, SDA pit, etc.) These, however, may be missing. On the opposite sides of the lift hooks, the phrase “406405-1 ASSY” is stenciled in black on the top right side of the bin. More black stenciled data may follow that stencil (e.g. s/n 336, S/N 385, etc.). Frequently a 4 or 5 digit number that starts with 22 (2242, 2214, 22248, 22196, 22249, etc.), scribed in black marker will be hand written somewhere on the top half of the bin. These numbers can be found on the blue NRTS TID. Infrequently, spot contamination is denoted in black marker with an X in a circle on the bin.

3.3.3.4 AE Container Types

AE bins generally have the following exterior characteristics. Not all AE bins will have every characteristic; however, waste bins from another generator will not have these characteristics.

The MIII/MIV bins are painted white, with a green triangle at the top right corner, which denotes debris waste. The predominately solid or soil bins are painted red or green. Notably, the debris waste will not be in a red or green bin. These containers are generally in fairly good condition, but many have the lift hook tops cut off. The container historical ID may be stenciled in black on the top left of the bin, in one of the following formats: P • 001 or P06. AE bins do not have the stenciled assembly information or the blue NRTS TID observed in SD bins.

3.4 Prohibited Items

Prohibited items are identified in Section 4.0 (Description or Special Notes) as described in AK source documents or detected during RTR or VE activities. However, prohibited items other than those identified in Section 4.0 may be present. Containers with WIPP-prohibited items or whose contents cannot be verified (e.g., due to impenetrable objects or otherwise unidentifiable) are prohibited from disposal at the WIPP facility until the prohibited condition is removed, container contents are made acceptable, or no prohibited items are verified. The containers that require corrective action will be flagged for appropriate disposition. The following are summaries of potential prohibited items that may be found in the waste.

Advanced Mixed Waste Treatment Project Waste Matrix Code Reference Manual

3.4.1 Potential Prohibited Items in RF Wastes

Prohibited items that may be present in containers of RF debris waste include, but are not limited to, sealed containers greater than 4 liters (e.g., clamshells, taped 8804 or 8806 Vollrath cans), pressurized containers (e.g., unvented aerosol cans or compressed gas cylinders with relief valve in place), prohibited containerized liquids (e.g., bottles, cans, or lead cell batteries with liquids in excess of WIPP permit requirements), liquids in excess of 1% within the payload container, and sharp or heavy objects that do not meet the criteria for packaging protection.^{2, 54, 38, 51, 100}

Containers of RF bulk or direct loaded sludge, solidified liquids, or salt wastes (IDCs RF-001, RF-002, RF-003, RF-004, RF-005, RF-007, RF-095, RF-700, RF-741, RF-742, RF-744, RF-745, RF-749, RF-800, RF-801, RF-802, RF-803, RF-807, and RF-995) may contain prohibited liquids. IDC RF-002 sludge packaged prior to 1973 may contain bottles of liquid chemical waste or mercury. Visual examination of containers of RF bulk or direct loaded sludge, solidified liquids, or salt waste packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.^{2, 3, 51, 52, 54}

RF homogeneous solid waste packaged in small containers may include prohibited sealed containers greater than 4 liters (e.g., clamshells) and prohibited containerized liquids.^{2, 3, 51, 54}

3.4.2 Potential Prohibited Items in MD Wastes

Prohibited items that may be present in containers of MD debris waste include, but are not limited to, sealed containers greater than 4 liters (e.g., 30-gallon drum, taped 8804 or 8806 Vollrath cans, and capped pipe sections), pressurized containers (e.g., unvented aerosol cans or gas cylinder with relief valve in place), prohibited containerized liquids (including bottles of mercury), and excess liquids.^{3, 4}

MD homogeneous solids waste may include prohibited liquids in the payload container. Visual examination of containers of MD bulk or direct loaded homogeneous solids waste (e.g., IDCs MD-834, MD-835, and MD-836) packaged in 55-, 83-, or 85-gallon drums would not provide additional relevant information to the RTR examination.⁴

3.4.3 Potential Prohibited Items in BC Wastes

Containers of BC debris waste may include prohibited pressurized containers (e.g., unvented aerosol cans or gas cylinder with relief valve in place) and prohibited containerized liquids (e.g., small bottles of liquids and liquids in plastic bags).⁵

3.4.4 Potential Prohibited Items in BL Wastes

Containers of BL homogeneous solid and debris wastes may include prohibited sealed containers greater than 4 liters (e.g., if sealed, tin-plated steel cans 4-3/8 in. by 20 to 24 in., or 2R inner containers greater than 10-in. length in type 6M drums). Prohibited liquids may also be present in the containers of debris waste.⁵⁰

Advanced Mixed Waste Treatment Project Waste Matrix Code Reference Manual

3.4.5 Potential Prohibited Items in AW Wastes

Prohibited liquids and sealed containers greater than 4 liters may be present in the containers of AW debris waste shipped to AMWTP. ^{164, 265}

3.4.6 Potential Prohibited Items in RL Wastes

Containers of RL debris waste are verified by radiography at RL to ensure no prohibited items are present in the container to be shipped to AMWTP. Potential prohibited items that are present in the waste at RL include prohibited liquids, un-punctured aerosol cans, and sealed containers greater than 4 liters (e.g. 5-quart, 4-gallon, and 5-gallon cans). ¹⁸⁰

3.4.7 Potential Prohibited Items in AE Wastes

Waste packaged prior to February 1981 may contain prohibited items including, but not limited to, prohibited liquids, pressurized containers (e.g., unvented aerosol cans or compressed gas cylinders with relief valve in place), and sealed containers greater than 4 liters. ^{271, 263}

3.4.8 Potential Prohibited Items in LA Wastes

Procedures in place during the 1970s allowed containers greater than four liters, sealed with tape, to be used for waste packaging. Prior to 1994, potentially ignitable, corrosive, or reactive materials (e.g., liquids, un-punctured aerosol cans) may be present in older containers included in this waste stream. The presence of containerized and uncontainerized liquids has also been observed. Some 55-gallon drums will contain overpacked 30-gallon drums. Lead shielding was sometimes used. ²⁷³

3.4.9 Potential Prohibited Items in ID Wastes

Containers of ID debris and homogeneous solids waste may contain prohibited items including, but not limited to, prohibited liquids, sealed containers greater than 4 liters, and unvented aerosol cans. ²⁷⁴

3.4.10 Potential Prohibited Items in Offsite Wastes

INL wastes received under the AMWTP Offsite Waste Program must meet the acceptance criteria outlined in procedure MP-TRUW-8.40, INL Waste Acceptance. Offsite wastes received under the AMWTP Offsite Waste Program must meet the acceptance criteria outlined in procedure MP-TRUW-8.41, Offsite DOE CH-TRU Waste Acceptance. Waste may be accepted if treatment by the AMWTP renders the waste acceptable for disposal. Any prohibited items (removed during treatment) may be returned to the originating INL or offsite waste generator. ^{189, 190}

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Table 3.1. Explanation of reference table content.

<i>WMCG</i>	<i>WMC Description</i>		<i>SCG</i>
WMC	<i>Generator – IDC</i>	<i>IDC Description (A concise description [title] of the waste which is also recorded in WTS)</i>	
WIPP Status	<i>This field contains statement as to whether waste is or is not a candidate for shipment to WIPP and to identify when CCP is responsible to characterize (i.e., RTR/VE) and profile the waste.</i>		
Waste Description	<i>This field contains a brief description of the primary waste form(s) expected in the waste. It also identifies other waste forms that may be present in the waste (i.e., waste may also contain less than 50% by volume...), for example: Inorganic sludge generated at RF in Building 774 from precipitation of aqueous waste. Waste may also contain less than 50% by volume debris items (e.g., surgeon's gloves, glovebox gloves).</i>		
Inner Packaging	<i>This field contains a brief description of the inner packaging (listed from innermost layer to outer layer), for example: 1-gallon cardboard carton / Poly bag/Poly bag or Direct loaded into the waste drum. NOTE: Number of layers of packaging may vary from those identified in Section 4.0.</i>		
Drum Preparation	<i>This field contains a brief description of the typical drum preparation (listed from outermost layer to inner layer), for example: Rigid liner (after 1971) / Poly Drum Bag / Poly Drum Bag. NOTE: A drum may not have all liners identified in Section 4.0.</i>		
Box/Bin Preparation	<i>This field contains a brief description of the typical box/bin preparation (if boxes or bins were used to package the waste), for example: Poly Box Bag / Cardboard Box Liner. NOTE: A box may not have all liners identified in Section 4.0.</i>		
Primary Waste Parameter(s)	<i>This field identifies the expected waste parameters associated with the primary waste form(s). This information is based on the IDC and waste descriptions designated by the waste generator in AK source documents. It does not identify the minor waste parameter(s) for inner packaging or other waste forms that may also be present in a drum. For example: iron-based metals/alloys, aluminum-based metals/alloys, other metals is identified as the expected waste parameters for IDC RF-480 (light metal) although other wastes forms including plastic, paper, rubber, or glass may also be present in a drum. NOTE: Identify in WTS all waste parameters and estimate the associated weights for all waste forms observed during RTR or VE including expected primary waste form(s), the other waste forms, and inner packaging. See Section 3.0 for examples of other waste forms (including absorbent) and alternative inner packaging that have been found in waste containers.</i>		
Special Notes	<i>This field contains information pertinent to characterization activities, such as potential prohibited items, acceptable and unacceptable packaging variations, and polychlorinated biphenyl (PCB) information. This field also provides information regarding recommended IDC/WMC changes.</i>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

4.0 WASTE MATRIX CODE REFERENCE TABLES

NOTE: *The following tables do not contain all possible variations in packaging configurations. Observations of additional packaging variations should be noted during characterization activities. Abbreviated tables may be provided for the IDCs associated with the wastes received under the AMWTP Offsite Waste Program that will be characterized and profiled by CCP. The waste stream description, composition, packaging, and prohibited items information for these abbreviated tables are available from the AMWTP offsite waste coordinator.*

Unknown/Other Solids	Unknown/Other Solids	S9000
S9000	PC-000	Post-Characterization Unknown
WIPP Status	Not a WIPP Candidate (see Special Notes)	
Waste Description	Temporary IDC for intact containers of waste without sufficient historical information and the physical form of the waste (i.e., homogeneous solids, debris or soil) is not known after characterization activities (e.g., after RTR).	
Inner Packaging	TBD by VE	
Drum Preparation	TBD by VE	
Box Preparation	TBD by VE	
Primary Waste Parameter(s)	TBD by VE	
Special Notes	<p>Final IDC assignment required before waste can be shipped to WIPP.</p> <p>VE will be used to identify physical form and waste material parameters.</p> <p>Generator-specific IDC and WMC are recommended based on physical form, packaging configuration, labeling on the drum, or any marking or labeling on items within the container that would identify the generator IDC. If not possible to recommend a generator-specific IDC, then recommend change to the most applicable IDC from the following:</p> <p>If > 50% by volume homogeneous solid but it is not possible to recommend a generator specific IDC, recommend a, b, or c:</p> <ol style="list-style-type: none"> a. If a definitive assessment determines waste is inorganic solids, recommend change to IDC BN-505 and assign Inorganic Matrix as the waste material parameter. b. If a definitive assessment determines waste is organic solids but the waste is not PCB contaminated, recommend change to IDC BN-513 and assign Organic Matrix as the waste material parameter. c. If the type of homogeneous solids is indeterminate, recommend change to IDC BN-511 (which is the default IDC that conservatively assumes waste is Organic and PCB contaminated) and assign Organic Matrix as the waste parameter. <p>If > 50% by volume debris, recommend change to IDC.</p> <ul style="list-style-type: none"> • If a definitive assessment determines waste is not PCB contaminated, recommend change to IDC BN-500. • If waste may be PCB contaminated, recommend change to IDC BN-604. <p>If > 50% by volume soils, gravel, or sand (natural geologic material < 2.36 inches [60 millimeters]), recommend change to IDC.</p> <ul style="list-style-type: none"> • If a definitive assessment determines waste is not PCB contaminated, recommend change to IDC BN-522. • If waste may be PCB contaminated, recommend change to IDC BN-501. <p>If > 50% by volume liquids, recommend change to IDC.</p>	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

	<ul style="list-style-type: none"> • If a definitive assessment determines waste is not PCB contaminated, recommend change to IDC BN-529. • If waste may be PCB contaminated, recommend change to IDC BN-528 <p>If indeterminate, VE may retain IDC PC-000 but must choose “cannot be verified” on the WTS screen.</p> <p>An AK evaluation will be performed for all containers that were assigned the temporary IDC PC-000.</p>
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Unknown/Other Solids	Unknown/Other Solids	S9000
S9000	UN-000	Undetermined Form
WIPP Status	Not a WIPP Candidate (see Special Notes)	
Waste Description	Temporary IDC for intact containers of waste without sufficient historical information. Physical form of the waste (e.g., homogeneous solids, debris, or soil) is not known; therefore, applicable characterization activities (e.g., radioassay, RTR/VE) and an AK evaluation must be completed before IDC assignment can be made.	
Inner Packaging	TBD by RTR or VE	
Drum Preparation	TBD by RTR or VE	
Box Preparation	TBD by RTR or VE	
Primary Waste Parameter(s)	TBD by RTR or VE	
Special Notes	<p>Final IDC assignment required before waste can be shipped to WIPP. RTR or VE will be used to identify physical form and waste material parameters. Generator-specific IDC and WMC are recommended based on physical form, packaging configuration, labeling on the drum, or any marking or labeling on items within the container that would identify the generator IDC.</p> <p>If not possible to recommend a generator-specific IDC after RTR, then recommend change to the most applicable IDC from the following:</p> <ul style="list-style-type: none"> • If > 50% by volume homogeneous solids, recommend change to IDC UN-00A (conservatively assign Organic Matrix as the waste parameter, unless a definitive assessment determines the waste parameter is Inorganic Matrix). • If > 50% by volume debris, recommend change to IDC UN-00B. • If > 50% by volume soils, gravel, or sand (natural geologic material < 2.36 inches [60 millimeters]), recommend change to IDC UN-00C. • If >50% by volume liquids, recommend change to IDC UN-00D. • If indeterminate, RTR may recommend change to IDC PC-000. <p>If VE is performed, see PC-000 for recommendations.</p> <p>An AK evaluation will be performed for all containers that were assigned the temporary IDCs UN-00A, UN-00B, UN-00C, UN-00D, or PC-000.</p> <p>AKE may retain or recommend temporary IDCs UN-00A, UN-00B, UN-00C, UN-00D, or PC-000 if VE is required prior to assigning final IDC.</p>	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics		Unknown/Other Homogeneous Solids	S3000
S3900	UN-00A	Undefined Homogeneous Solids	
WIPP Status	Not a WIPP Candidate (see Special Notes)		
Waste Description	Temporary IDC for intact containers of homogeneous solids waste without sufficient historical information, that require completion of characterization activities (e.g., radioassay, RTR/VE) and AK evaluation before IDC assignment can be made. UN-00A is considered PCB waste until a final determination of the IDC is made.		
Inner Packaging	TBD by RTR or VE		
Drum Preparation	TBD by RTR or VE		
Box Preparation	TBD by RTR or VE		
Primary Waste Parameter(s)	Organic Matrix.		
Special Notes	<p>Final IDC assignment required before waste can be shipped to WIPP. RTR or VE will be used to identify physical form and waste material parameters. Generator-specific IDC and WMC are recommended based on physical form, packaging configuration, labeling on the drum, or any marking or labeling on items within the container that would identify the generator IDC.</p> <p>If not possible to recommend a generator-specific IDC after RTR, then recommend a change to the most applicable from the following:</p> <ul style="list-style-type: none"> • If > 50% by volume debris, recommend change to IDC UN-00B. • If > 50% by volume soils, gravel, or sand (natural geologic material < 2.36 inches [60 millimeters]), recommend change to IDC UN-00C. • If > 50% by volume liquids, recommend change to IDC UN-00D. • If indeterminate waste type, recommend change to IDC UN-000. <p>An AK evaluation will be performed for all containers that were assigned the temporary IDC UN-00A. If > 50% by volume homogeneous solid and the AKE cannot recommend a generator specific IDC, recommend a, b, or c:</p> <ol style="list-style-type: none"> a. If a definitive assessment determines waste is inorganic solids, recommend change to IDC BN-505 and assign Inorganic Matrix as the waste material parameter. b. If a definitive assessment determines waste is organic solids but the waste is not PCB contaminated, recommend change to IDC BN-513 and assign Organic Matrix as the waste material parameter. c. If the type of homogeneous solids is indeterminate, recommend change to IDC BN-511 (which is the default IDC that conservatively assumes waste is Organic and PCB contaminated) and assign Organic Matrix as the waste parameter. <p>AKE may retain IDC UN-00A and request a VE be required prior to assigning final IDC. If VE is performed, see PC-000 for recommendations.</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Debris	S5000
S5900	UN-00B	Undefined Debris	
WIPP Status	Not a WIPP Candidate (see Special Notes)		
Waste Description	Temporary IDC for intact containers of debris waste without sufficient historical information, that require completion of characterization activities (e.g., radioassay, RTR/VE) and AK evaluation before IDC assignment can be completed.		
Inner Packaging	TBD by RTR or VE		
Drum Preparation	TBD by RTR or VE		
Box Preparation	TBD by RTR or VE		
Primary Waste Parameter(s)	TBD by RTR or VE		
Special Notes	<p>Final IDC assignment required before waste can be shipped to WIPP. RTR or VE will be used to identify physical form and waste material parameters. Generator-specific IDC and WMC are recommended based on physical form, packaging configuration, labeling on the drum, or any marking or labeling on items within the container that would identify the generator IDC.</p> <p>If not possible to recommend a generator-specific IDC after RTR, then recommend a change to the most applicable from the following:</p> <ul style="list-style-type: none"> • If >50% by volume homogeneous solids, recommend change to IDC UN-00A. • If >50% by volume soils, gravel, or sand (natural geologic material <2.36 inches [60 millimeters]), recommend change to IDC UN-00C. • If >50% by volume liquids, recommend change to IDC UN-00D. • If indeterminate waste type, recommend change to IDC UN-000. <p>An AK evaluation will be performed for all containers that were assigned the temporary IDC UN-00B. If >50% debris and the AKE cannot recommend a generator specific IDC, recommend a or b:</p> <ol style="list-style-type: none"> a. If a definitive assessment determines waste is not PCB contaminated, recommend change to IDC BN-770. b. If waste may be PCB contaminated, recommend change to IDC BN-604. <p>AKE may retain IDC UN-00B if VE required prior to assigning final IDC. If VE is performed, see PC-000 for recommendations.</p>		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Soils	Unknown/Other Soil/Gravel	S4000
S4900	UN-00C	Undefined Soil
WIPP Status	Not a WIPP Candidate (see Special Notes)	
Waste Description	Temporary IDC for intact containers of soil without sufficient historical information, that require completion of characterization activities (e.g., radioassay, RTR/VE) and AK evaluation before IDC assignment can be completed.	
Inner Packaging	TBD by RTR or VE	
Drum Preparation	TBD by RTR or VE	
Box Preparation	TBD by RTR or VE	
Primary Waste Parameter(s)	Soils/gravel	
Special Notes	<p>Final IDC assignment required before waste can be shipped to WIPP. RTR or VE will be used to identify physical form and waste material parameters. Generator-specific IDC and WMC are recommended based on physical form, packaging configuration, labeling on the drum, or any marking or labeling on items within the container that would identify the generator IDC.</p> <p>If not possible to recommend a generator-specific IDC after RTR, then recommend a change to the most applicable from the following:</p> <ul style="list-style-type: none"> • If > 50% by volume homogeneous solids, recommend change to IDC UN-00A. • If > 50% by volume debris, recommend change to IDC UN-00B. • If > 50% by volume liquids, recommend change to IDC UN-00D. • If indeterminate waste type, recommend change to IDC UN-000. <p>An AK evaluation will be performed for all containers that were assigned the temporary IDC UN-00C. If > 50% by volume soils, gravel, or sand (natural geologic material ≤ 2.36 inches [60 millimeters]) and the AKE cannot recommend a generator specific IDC, recommend a or b:</p> <ol style="list-style-type: none"> a. If a definitive assessment determines waste is not PCB contaminated, recommend change to IDC BN-522. b. If waste may be PCB contaminated, recommend change to IDC BN-501. <p>AKE may retain IDC UN-00C if VE required prior to assigning final IDC. If VE is performed, see PC-000 for recommendations.</p>	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

N/A	Unknown/Other Liquids	N/A
N/A	UN-00D	Undefined Liquids
WIPP Status	Not a WIPP Candidate (see Special Notes)	
Waste Description	Temporary IDC for intact containers of liquid waste without sufficient historical information, that require completion of characterization activities (e.g., radioassay, RTR/VE) and an AK evaluation before IDC assignment can be completed.	
Inner Packaging	TBD by RTR or VE	
Drum Preparation	TBD by RTR or VE	
Primary Waste Parameter(s)	N/A	
Special Notes	<p>Liquid absorption and final IDC assignment required before waste can be shipped to WIPP. RTR or VE will be used to identify physical form and waste material parameters. Generator-specific IDC and WMC are recommended based on physical form, packaging configuration, labeling on the drum, or any marking or labeling on items within the container that would identify the generator IDC.</p> <p>If not possible to recommend a generator-specific IDC, then recommend a change to the most applicable from the following:</p> <ul style="list-style-type: none"> • If >50% by volume homogeneous solids, recommend change to IDC UN-00A. • If >50% by volume debris, recommend change to IDC UN-00B. • If >50% by volume soils, gravel, or sand (natural geologic material ≤ 2.36 inches [60 millimeters]), recommend change to IDC UN-00C. • If indeterminate waste type, recommend change to IDC UN-000. <p>An AK evaluation will be performed for all containers that were assigned the temporary IDC UN-00D. If >50% by volume liquids and the AKE cannot recommend a generator specific IDC, recommend a or b:</p> <ol style="list-style-type: none"> a. If a definitive assessment determines waste is not PCB contaminated, recommend change to IDC BN-529. b. If waste may be PCB contaminated, recommend change to IDC BN-528 <p>AKE may retain IDC UN-00D if VE required prior to assigning final IDC. If VE is performed, see PC-000 for recommendations.</p>	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics	Wastewater Treatment Sludges		S3000
S3121	RF-001	First Stage Sludge	
WIPP Status	WIPP Candidate		
Waste Description	<p>Inorganic sludge generated in Building 774 from the precipitation of process aqueous liquids. After 1979, waste consisted of combined first and second stage sludge. Up to 50 pounds Portland cement added to drum (primarily at bottom of drum, rigid liner, and/or drum bags) to absorb liquids.</p> <p>After 1982, cement added at top of sludge prior to sealing O-ring drum bag. Waste may also contain <50% by volume cellulosic, plastic, rubber and metal debris items (e.g., surgeon's gloves, glovebox gloves, leaded rubber aprons, filters, plastic tubing, and bolts).⁶⁸</p>		
Inner Packaging	<p>Direct loaded into the waste drum.</p> <p>A small number of drums may contain sludge waste within poly bags, metal cans, and/or poly bottles. See Special Notes below.</p>		
Drum Preparation	<p>Rigid Liner (after 1971) / Poly drum bag / O-Ring Load-Out Drum Bag</p> <p>Up to 5 pounds Portland cement may be added on top of inner sealed Poly drum bag. Some drums may be either lead-lined or contain a lead-taped rigid liner.</p>		
Box Preparation	<p>Drums of this waste may be direct loaded into standard waste boxes (SWBs) as an alternate packaging configuration for shipment to WIPP.</p>		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	<p>Prior to 1982, no cement or absorbent was added at the top of the sludge prior to sealing the O-ring drum bag; therefore, excess liquids may be present on top of the sludge.</p> <p>Based on RTR results, waste may also contain prohibited liquids within the drum bag or between the rigid liner and drum, as well as on top of sludge packaged after 1982. Waste may also contain compressed gases (including aerosol cans), prohibited liquids in small containers, sealed containers >4 liters, sharp objects, impenetrable objects, or impenetrable lead shielding.²⁴³</p> <p>Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>A small number of drums with container prefixes 741 or 7412 may contain multiple packages of sludge waste packaged in poly bags, poly bottles, metal cans, or other small containers instead of sludge directly loaded into drum.^{7, 11} Although the subject drums have a configuration similar to RF-292, RF-290, and RF-696, AK does not support the reassignment to one of these IDCs, provided the historical ID begins with "IDRF0741" or "IDRF7412."</p> <p>Potential IDC changes should still be recommended and evaluated for other historical IDs or when there is a large discrepancy between current and historical ID container weights. If indeterminate, recommend change to IDC UN-00A and an AK evaluation will be performed. Historical ID typically begins with "IDRF0741" or "IDRF7412."</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Solidified Homogeneous Solids	S3000
S3150	LA-002	TA-50 Radioactive Liquid Waste Treatment Facility	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{195, 196}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Solidified Inorganics		Wastewater Treatment Sludges	S3000
S3121	RF-002	Second Stage Sludge	
WIPP Status	WIPP Candidate		
Waste Description	Inorganic sludge generated in Building 774 from precipitation of liquid effluent from First Stage Treatment, and aqueous liquid waste from all process areas at RF. Up to 50 pounds Portland cement was added in layers as sludge was placed in the drum, as well as inside poly drum bag to absorb liquids. Drums packaged prior to 1973 may also contain <50% by volume other waste including debris items (e.g., electric motors, batteries) and bottles of liquid chemical waste or mercury. ³		
Inner Packaging	Direct loaded into the waste drum		
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / O-Ring Load-Out Drum Bag Up to 5 pounds of Portland cement may have been added on top of each sealed poly drum bag.		
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum. Waste may also contain compressed gases (including aerosol cans), prohibited liquids in small containers, sealed containers >4 liters, sharp objects, or impenetrable objects. A 2.5-gallon propane tank with prohibited liquids was identified by RTR in one drum. ²⁴³</p> <p>Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>One drum of second stage sludge packaged after 1973 included a small container of waste (contaminated soil) buried in the sludge. ⁷⁶</p> <p>Radionuclide sources may have been placed in individual drums of sludge waste prior to 1980. ⁸⁸</p> <p>Historical ID typically begins with “IDRF0742.”</p>		

Solidified Inorganics		Inorganic Sludges	S3000
S3120	LA-003	Solidified Inorganics	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{196, 197}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics		Absorbed Organic Liquids	S3000
S3114	RF-003	Organic Setups, Oil Solids	
WIPP Status	WIPP Candidate		
Waste Description	Organic sludge-like waste generated in Building 774 Grease Plant by mixing solvent and oils from machining operations with Micro-Cel [®] E (i.e., synthetic calcium silicate) and small quantities of Oil-Dri [®] . Up to 20 pounds Oil-Dri [®] was added at the top and/or bottom of the drum, rigid liner, and/or drum bags.		
Inner Packaging	Direct loaded into the waste drum.		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / O-Ring Drum Load-Out Bag ^{2, 54}		
Primary Waste Parameter(s)	Organic Matrix		
Special Notes	<p>PCB waste with any observable liquid is prohibited from disposal at WIPP.</p> <p>Based on RTR results, waste may contain prohibited liquids on top of the waste, within the drum bag, or between the rigid liner and drum. Waste may also contain aerosol cans, prohibited liquids in small containers, sealed containers >4 liters, sharp objects, or impenetrable objects. Some containers may have a wire mesh insert.²⁴³</p> <p>Visual examination of this bulk or direct loaded waste packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>This waste has been identified as PCB contaminated. The net weight of waste should be used as the “PCB Mass” in WTS.</p> <p>One of the containers with historical drum numbers IDRF074313464 through IDRF074313472 may contain a 1-liter bottle of organic liquid waste.³</p> <p>Liquid treatment is authorized for this IDC under approval of the Risk Based Disposal Authorization (RBDA) and liquid treatment is only allowed if waste is targeted for shipment to WIPP. CWI is authorized to perform liquid treatment and re-packaging of this waste for CCP. See offsite waste coordinator for information on CWI treated wastes.</p> <p>Historical ID typically begins with “IDRF0743.”</p>		

Solidified Inorganics		Inorganic Particulates	S3000
S3110	LA-004	Solidified Inorganics from TA-55 Facility	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, and primary waste material parameters. ^{198, 236}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Solidified Homogeneous Solids		S3000
S3150	RF-004	Special Setups		
WIPP Status	WIPP Candidate			
Waste Description	Solidified inorganic waste generated in Building 774 by mixing aqueous chemical liquid waste generated by various operations at RF with a cement mixture and adding up to 15 pounds of cement to the top of the sludge. Up to 20 pounds of cement was added to top and/or bottom of drum, rigid liner, and/or O-ring drum bag.			
Inner Packaging	Direct loaded into the waste drum. A small number of drums may contain poly bottles. See Special Notes below.			
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / O-Ring Drum Load-Out Bag			
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.			
Primary Waste Parameter(s)	Inorganic Matrix			
Special Notes	<p>Prohibited liquids may be present in this sludge waste. ⁴¹ Based on RTR results, waste may contain prohibited liquids within the drum bag. Waste may also contain sealed containers > 4 liters, sharp objects, or impenetrable objects. ²⁴³</p> <p>Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>Some drums may contain primarily poly bottles of solidified waste instead of direct loaded sludge waste. An AK evaluation is required if poly bottles of solidified waste are identified. Make a recommended IDC change to IDC UN-00A and an AK evaluation will be performed. Other drums may not contain sludge but contain debris waste (i.e., polyethylene bottles that previously contained liquid waste). A small amount of cement was added to empty bottles before packaging into drums. Recommend change to IDC RF-337 if the drum only contains bottles with small amounts of cement.</p> <p>IDC RF-004 was replaced by IDC RF-802 in 1986.</p> <p>Historical ID typically begins with "IDRF0744."</p>			

Salt Waste		Salt Waste		S3000
S3140	LA-005	LANL Mixed Salt Waste		
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP			
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, and primary waste material parameters. ^{198, 236}			
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	IW-005	Evaporator Salts-Retrieved RF TRU
WIPP Status	N/A – Overpack Container	
Waste Description	IDC IW-005 is not to be used for characterizing waste (see Special Notes). The MIII bins contain evaporator salts that were generated by the Building 774 evaporator system at RF. The evaporator salts were packaged in 55-gallon drums by RF prior to 1972 and shipped to INL. The drums were subsequently placed into MIII bins and transferred to Pad R. ⁹⁷	
Bin Configuration	Bins may contain up to eight 55-gallon drums. Absorbent (~100 pounds) was routinely spread inside the MIII bins. ^{123, 124}	
Primary Waste Parameter(s)	N/A – overpack container	
Special Notes	IDC IW-005 is reserved to track bins packaged with waste retrieved from the pits and is not to be used to characterize the waste. Bins may be labeled with an identifier including the letters “RR.” Intact drums of evaporator salt unloaded from the bins are assigned IDC RF-745. ⁹⁷	

Salt Waste	Nitrate Salts	S3000
S3143	RF-005	Evaporator Salts
WIPP Status	WIPP Candidate	
Waste Description	Salt residues generated by Building 774 evaporator system from concentrating and drying liquid waste from the solar evaporation ponds. Waste may also contain <50% by volume surgeon’s gloves, paper, rags, and metal debris.	
Inner Packaging	Direct loaded into waste drum or box.	
Drum Preparation	Up to 2 plastic drum bags and/or a crepe paper bag.	
Box Preparation	Plastic liner/ Cardboard liner	
Primary Waste Parameter(s)	Other Inorganic Materials	
Special Notes	May contain Portland cement used as absorbent. Based on RTR, waste may contain prohibited liquids. ²⁴³ Visual examination of this bulk or direct loaded salt packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination. A majority of the waste should contain TRU activity concentration of <10 nCi/g. Historical ID typically begins with “IDRF0745.”	

Solidified Inorganics	Solidified Homogeneous Solids	S3000
S3150	LA-006	Cemented TRU Waste
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP	
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{198, 199}	
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Debris	S5000
S5400	LA-007	Mixed Heterogeneous Debris from TA-55	
WIPP Status	WIPP Candidate		
Waste Description	Combustible and non-combustible waste. Examples of the waste includes paper, rags, wood-based high-efficiency particulate air (HEPA) filters, tape, lead-lined gloves, plastic vials, tygon tubing, lab coats and coveralls, booties, cotton gloves, small tools, motors, pumps, glovebox windows, ductwork, metal pipes, graphite, sand, slag and crucibles, and miscellaneous lab ware. This waste may contain no more than 50% homogenous solids. Homogenous solids include: leached solids, ash, hydroxide cakes, impure oxides or salts from absorbed or cemented materials such as organics. ²⁷³		
Inner Packaging	The waste material is placed directly into one or more bag-out bags (also called inner bags). Waste may also be packaged into a stainless-steel dressing jar, a slip-top can, and/or an unsealed metal container before it is placed into the bag-out bag. Once removed from the glovebox line, the bagged out container(s) may also be put into a secondary stainless-steel slip-top container. ²⁷³		
Drum Preparation	Up to two 5- to 12-mil plastic liner bags closed with tape or folded, and/or one 90-/125-mil rigid polyethylene liner with lid. Rigid liner may be contained in a bag-out bag. Remediated/repackaged waste may be packaged with or without a single plastic liner bag with one of the following drum configurations depending on the remediation facility: no liner, a fiberboard liner, a pipe overpack container, or a 90-/125-mil rigid polyethylene liner without lid. ²⁷³		
Box Preparation	Waste items may be packaged in corrugated metal boxes (CMB). The CMB may have a ¾ inch plywood liner with a horsetailed closed bagout bag containing bagged out waste. The waste items are not individually wrapped. ²⁷⁵		
Primary Waste Parameter(s)	Iron-based metals, other inorganic materials, and plastics. ²⁷³		
Special Notes	<p>Prohibited items identified are, containers greater than 4 liters, light ballasts, aerosol cans and containerized and uncontainerized liquids. ²⁷³</p> <p>Lead shielding is often used. ²⁷³</p> <p>Waste with the potential to tear the plastic bag, such as broken glass, is first placed in a metal container with a slip-top (also referred to as a slip-fit) lid, taped closed, and then placed into the plastic bag. Larger waste items with sharp edges are properly taped or otherwise rendered blunt. ²⁷³</p> <p>Homogeneous solids were packaged in 1-quart to 5-gallon cans. ²⁷³</p> <p>If <50% by volume debris, recommend an IDC change and notify the AMWTP offsite waste coordinator. IDC UN-000 may be used.</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics	Wastewater Treatment Sludges	S3000
S3121	RF-007	Building 374 Dry Sludge
WIPP Status	WIPP Candidate	
Waste Description	Inorganic sludge generated in Building 374 in support of Pu recovery activities. This sludge was dried, or a moist sludge was mixed with cement or a cement and diatomaceous earth mixture. Oil-Dri [®] , Vermiculite or other absorbents may be present in some drums. ⁴⁰ Waste may also contain <50% by volume plastic, rubber and metal debris items (e.g., leaded rubber gloves). ⁶⁹	
Inner Packaging	Direct loaded into the waste drum	
Drum Preparation	Rigid Liner (after1971) / Poly drum bag / O-Ring Load-Out Drum Bag	
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.	
Primary Waste Parameter(s)	Inorganic Matrix	
Special Notes	Based on RTR results, waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum. Waste may also contain sharp objects. ²⁴³ Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination. May have cement in drum. Historical ID typically begins with "IDRF0747."	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Debris	S5000
S5400	LA-008	Mixed Heterogeneous Debris from TA-3	
WIPP Status	WIPP Candidate		
Waste Description	<p>Combustible and non-combustible waste. Examples of the combustible waste includes paper, rags, plastic, rubber, wood-based HEPA filters, filter media, cardboard, wipes, paper towels, stoppers, tubing, valves, bottles, containers, paper coveralls, plastic booties, tape, lab coats, pvc plastic, Teflon products, Plexiglass, air hoses, leather gloves, latex gloves, personal protective equipment (PPE), hoods, hand tools, ladders, and wood. Examples of the non-combustible waste includes small tools, equipment, cans, motors, process equipment, gloveboxes, glovebox windows, ductwork, composite HEPA filters, metal pipes, graphite, vermiculite, dust, fiberglass filter media, brass items, steel items, glassware, ladders, filter frames, titanium and steel experimental containers, valves, shielding, foil lead and crucibles. This waste may contain no more than 50% homogenous solids and soils. Homogenous solids includes: Vermiculite, Envirostone, Zeolite, Portland cement, diatomaceous earth, NoChar and Pel-E-All.²⁷³</p>		
Inner Packaging	<p>Two 5-mil plastic liner bags could still be present in the 55-gallon drum, but they are typically closed by folding, not by twisting and taping. Waste with the potential to tear the plastic bag, such as broken glass, was placed first in a metal container with a slip lid, taped closed, and then placed into the plastic bag. Large or heavy items may have been framed in wood to prevent shifting.²⁷³</p>		
Drum Preparation	<p>Either two 5-mil plastic liner bags, twist and taped closed with yellow vinyl tape, or one 90-/125-mil rigid polyethylene liner with lid. Waste could also be packaged in 30-gallon drums, or into in-line 30-gallon drums attached to a glovebox in the waste management room. The 30-gallon drums were then packaged into 55-gallon drums.²⁷³</p>		
Box Preparation	<p>Waste items may be packaged in corrugated metal boxes (CMB). The CMB may have a 3/4-inch plywood liner with a horsetailed closed bagout bag containing bagged out waste. The waste items are not individually wrapped.²⁷⁵</p>		
Primary Waste Parameter(s)	<p>Plastic (waste materials), Other inorganic materials. Cellulosics, Iron-based Metals²⁷³</p>		
Special Notes	<p>Prohibited items identified are containers greater than 4 liters, containerized liquids, light ballasts and aerosol cans.²⁷³ If <50% by volume debris, recommend an IDC change and notify the AMWTP offsite waste coordinator. IDC UN-000 may be used.</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Debris	S5000
S5400	LA-009	Heterogeneous Debris from the TA-21 DP West Facility	
WIPP Status	WIPP Candidate		
Waste Description	Combustible and non-combustible waste. Examples of the combustible waste includes paper, rags, plastic, rubber, wood-based HEPA filters, filter media, cardboard, wipes, paper towels, stoppers, tubing, valves, bottles, containers, plastic sheeting, cotton gloves, cotton coveralls, paper coveralls, plastic booties, tape, lab coats, nylon booties, pvc plastic, Plexiglass, air hoses, leather gloves, latex gloves, PPE, hoods, hand tools, ladders, and wood. Examples of the non-combustible waste includes small tools, equipment, cans, pumps and motors, process equipment, gloveboxes, glovebox windows, holdup tanks, mills, lathes, presses, metal ductwork, composite HEPA filters, metal pipes, graphite, vermiculite, dust, fiberglass filter media, brass items, steel items, glassware, ladders, filter frames, valves, shielding, foil lead and crucibles. This waste may contain no more than 50% homogenous solids. Homogenous solids includes: Vermiculite, Waste Lock 770, Zeolite, or Portland cement. Small amount of process residues; ash, salts, filter cakes, resin, leached residues and filtrate. ²⁷³		
Inner Packaging	The packaging configurations for the waste are expected to vary from overpacked 30-gallon drums to multiple layers of inner plastic bags and/or metal cans. ²⁷³		
Drum Preparation	Either two 5-mil plastic liner bags, twist and taped closed with yellow vinyl tape, or one 90-/125-mil rigid polyethylene liner with lid. Waste could also be packaged in 15- or 30-gallon drums and overpacked into 55- and/or 85-gallon drums. ²⁷³		
Box Preparation	Waste items may be packaged in corrugated metal boxes (CMB). The CMB may have a ¾ inch plywood liner with a horsetailed closed bagout bag containing bagged out waste. The waste items are not individually wrapped. ²⁷⁵		
Primary Waste Parameter(s)	Iron based metals, Other metals, Cellulosics, Rubber ²⁷³		
Special Notes	Prohibited items identified are containers greater than 4 liters, containerized liquids, light ballasts, and aerosol cans. ²⁷³ Lead shielding is often used. ²⁷³ If <50% by volume debris, recommend an IDC change and notify the AMWTP offsite waste coordinator. IDC UN-000 may be used.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Combustibles	Unknown/Other Organic Debris		S5000
S5390	BL-010	Rags, Gloves, Poly	
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal		
Waste Description	Rags, gloves, paper, plastic, rubber, filters and wood debris from Bettis Labs. Waste may also contain any amount of noncombustible debris items but may only contain <50% by volume S3000 material (e.g., solidified or absorbed liquids), carbowax, oil-contaminated Absorbal, floor sweepings, grinding sludge and binary powder; solidified chemical waste (homogeneous solids including neutralized chemical solution mixed with Absorbal or carbowax), packaged in plastic wrapped bottles and/or cans. ^{50, 81}		
Inner Packaging	Small items wrapped in plastic and placed in 3-1/4 × 7-inch steel can with threaded lid/juice can with rolled seam lid. Large items wrapped in plastic, placed in 4-3/8 × 20- to 24-inch steel can, and then wrapped in plastic ³		
Drum Preparation	Rigid Liner		
Primary Waste Parameter(s)	Cellulosics, plastic (waste materials), rubber		
Special Notes	15 to 80 cans were stacked in the drum rigid liner. Variations in packaging configurations have been observed by RTR (e.g., 6M packaging). S3000 material may be present at >50%. If >50% by volume homogeneous solids (e.g., absorbed oil), recommend an IDC change. IDC UN-00A may be used if type of homogeneous solids is unknown.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Debris	S5000
S5400	LA-010	Heterogeneous Debris Waste from TA-50	
WIPP Status	WIPP Candidate		
Waste Description	<p>Combustible waste materials including cardboard, cellulotics, cheesecloth, cloth, filter media/paper, Kimwipes, leaded gloves, mops, paper, plastics (e.g., bags, bottles, piping, wrap), PPE, prefilters, rags, rubber (e.g., gaskets), sandpaper, Styrofoam, tape, wood, and wood-based HEPA filters.</p> <p>Non-combustible waste materials including aluminum foil, cans (e.g., tin), equipment and instruments (e.g., balance, pump, scale, smoke detector, vacuum gage), flanges, glass (e.g., jar, vials windows), graphite, lead (e.g., bricks, shielding), quartz tubes, platinum metal, piping, scrap metal, size reduced gloveboxes and tanks, sources, stainless-steel, tools, and valves. The waste may also include small amounts of homogeneous solids such as absorbent/solidification material (e.g., Portland cement, vermiculite, Waste Lock 770 [polymer-based absorbent]) used to solidify liquids (e.g., grease, oils), oxides (e.g., source material), and sand.²⁷³</p>		
Inner Packaging	Waste placed inside the drums was typically contained in a single plastic bag that was twisted then taped closed. Up to two liner bags could still be present, but were typically closed by folding, not by twisting and taping. Waste with the potential to tear the plastic bag, such as broken glass, is first placed in a metal container with a lid and then placed into the plastic bag. ²⁷³		
Drum Preparation	Up to two 5- to 12-mil plastic liner bags closed with tape or one 90-/125-mil rigid polyethylene liner with lid. ²⁷³		
Box Preparation	Waste items may be packaged in corrugated metal boxes (CMB). The CMB may have a ¾ inch plywood liner with a horsetailed closed bagout bag containing bagged out waste. The waste items are not individually wrapped. ²⁷⁵		
Primary Waste Parameter(s)	Iron-based metals, Other metals, Aluminum-based metals ²⁷³		
Special Notes	<p>Potential prohibited items are containers greater than 4 liters, containerized liquids and aerosol cans. Potential for light ballasts.²⁷³</p> <p>Lead shielding is often used.²⁷³</p> <p>If <50% by volume debris, recommend an IDC change and notify the AMWTP offsite waste coordinator. IDC UN-000 may be used.</p>		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Combustibles	Organic Debris	S5000
S5300	RF-010	Paper and Rags
WIPP Status	WIPP Candidate	
Waste Description	IDC RF-010 existed prior to IDCs RF-330 and RF-336 and as the predecessor IDC it is expected to include cloth, paper, and wood products including items such as wipes, towels, rags, coveralls, booties, gloves, HEPA filter frames, and lumber. Waste was packaged as a dry waste. Waste may also contain any amount of plastic, and rubber but may only contain <50% by volume metal and other inorganic material debris items (e.g., concrete, cement, leaded-glovebox gloves, surgeon's gloves, lead tape, and glass and metal items such as raschig rings, nails, cans, vials, bottles, lead sheeting, bolts, pipe, welding rods, batteries, tools, and wire). Absorbent may have been added to waste. ⁸¹	
Inner Packaging	O-Ring bag / Poly bag or Poly bag / Poly bag. Rigid liners are not expected in any of the drums packaged prior to 1972.	
Drum Preparation	Poly Drum Bag/ Poly Drum Bag or O-Ring bag Drums may be lead-lined (waste from americium recovery line).	
Primary Waste Parameter(s)	Cellulosics, Plastic (waste materials), Rubber	
Special Notes	IDC RF-010 was used prior to June 1971 and appears to have been replaced by IDCs RF-330 and RF-336. ⁹⁹ Containers with this IDC may be found in Cells 1 and 2, Pad 1. An IDC change to RF-330, RF-336, or RF-337 is not recommended because the waste was generated prior to the existence of these IDCs. Drums may contain compacted waste.	

Uncategorized Metal ⁹⁸	Unknown/Other Solids	S9000 ⁹⁸
S9000⁹⁸	BL-012	Miscellaneous Sources
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Description	The waste consists of two ²²⁶ Ra sources. ⁸¹	
Inner Packaging	2R pipe Lead shielding within pipe	
Drum Preparation	Celotex discs are used to center the 2R pipe	
Primary Waste Parameter(s)	<i>Not currently summarized</i>	
Special Notes	Variations in packaging configurations have been observed by RTR (e.g., 6M packaging). S9000 (Unknown/Other Solids) and WMCG Uncategorized Metal were assigned to IN-W360 in the 1995 Transuranic Waste Baseline Inventory Report (TWBIR). ⁹⁸ The final WMC will be determined when sufficient AK or RTR/VE data is available.	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Uncategorized Metal ⁹⁸	Unknown/Other Solids	S9000 ⁹⁸
S9000 ⁹⁸	BL-015	Neutron Sources
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Description	The waste consists of two ²³⁸ Pu-Be sources and one ²³⁸ Pu-Li source. ⁸¹	
Inner Packaging	Each source is double encapsulated in stainless steel/1/2-inch steel pipe/2R pipe	
Drum Preparation	Celotex discs and annular segments of polyethylene are used to center the 2R pipe	
Primary Waste Parameter(s)	<i>Not currently summarized</i>	
Special Notes	Variations in packaging configurations have been observed by RTR (e.g., 6M packaging). S9000 (Unknown/Other Solids) and WMCG Uncategorized Metal were assigned to IN-W359 in 1995 TWBIR. ⁹⁸ The final WMC will be determined when sufficient AK or RTR/VE data is available.	

Heterogeneous Debris Waste	Predominantly Inorganic Debris	S5000
S5420	BL-020	Non-compressible, Non-combustible
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Description	Debris waste including Absolute filters, metal equipment/tools, metal scrap (bars, sheets), furnace brick, and glovebox equipment. Waste may also contain any amount of combustibles or <50% by volume S3000 material (e.g., solidified chemical waste[homogeneous solids including neutralized chemical solution mixed with Absorbal or carbowax]) from laboratory analysis packaged in plastic wrapped bottles and/or cans; solidified or absorbed liquids, carbowax, oil-contaminated Absorbal, floor sweepings, grinding sludge and binary powder. ^{50, 81}	
Inner Packaging	Small items wrapped in plastic and placed in 3-1/4 × 7-inch steel can with threaded lid/Juice Can with rolled seam lid Large items wrapped in plastic, placed in 4-3/8 × 20- to 24-inch steel can, and then wrapped in plastic Larger items wrapped in plastic and directly loaded into drum All items single or double-bagged prior to placing in drum Absorbed liquids packaged in bottles that were placed in metal cans and wrapped with plastic ³	
Drum Preparation	Rigid liner	
Primary Waste Parameter(s)	Iron-based metals/alloys, other metals, other inorganic materials	
Special Notes	Based on RTR results, waste may contain sharp objects. ²⁴³ Variations in packaging configurations have been observed by RTR (e.g., 6M packaging). S3000 material may be present at >50%. If >50% by volume homogeneous solids (e.g., solidified chemical waste), recommend an IDC change. IDC UN-00A may be used if type of homogeneous solids is unknown.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Combustibles	Organic Debris	S5000
S5300	RF-020	Wood & Benelex
WIPP Status	WIPP Candidate	
Waste Description	IDC RF-020 existed prior to IDCs RF-464 and RF-970 and as the predecessor IDC it is expected to include wood products (e.g., lumber, plywood, filter frames, ladders, and Benelex). Benelex is densely laminated wood product which was usually coated with fire retardant paint or may have lead shielding attached. Benelex came in 2-inch thick sheets. Waste may also contain <50% by volume plastic, rubber, metal, glass, and other inorganic material debris items (wipes, nails, sheetrock, etc.).	
Inner Packaging	Poly bag / Poly bag Waste may be placed directly into waste drum or box.	
Drum Preparation	Poly Drum Bag/ Poly Drum Bag A cardboard liner may be present in some drums. Rigid liners are not expected in any of the drums packaged prior to 1972.	
Primary Waste Parameter(s)	Cellulosics (e.g., Benelex, wood), other metal (e.g., lead shielding)	
Special Notes	IDC RF-020 was used prior to June 1971 and appears to have been replaced by IDCs RF-464 and RF-970. ⁹⁹ Containers with this IDC may be found in Cells 1 and 2, Pad 1. Benelex is a cellulosic material and may have lead shielding attached and some of the hinges and handles may still be attached. The lead shielding was usually bolted to the Benelex so look for the bolts and nuts. An IDC change to RF-464 or RF-970 is not recommended because the waste was generated prior to the existence of these IDCs.	

Lead/Cadmium Metal	Debris Waste	S5000
S5000	ID-021	Radioactive Mixed Lead Waste
WIPP Status	WIPP Candidate	
Waste Description	Radioactive lead formerly used as shielding but NOT lead used as shielding in a waste drum. Waste includes primarily lead bricks or lead sheets and may also include small amounts of combustible and non-combustible debris. Waste may also contain <50% by volume homogeneous solids. ²⁷⁴	
Inner Packaging	No information is currently available about inner packaging.	
Drum Preparation	Waste is not expected in drums. ²⁷⁴	
Bin Preparation	Waste was packaged in wood and metal crates (e.g., SWBs/bins). A liner may or may not have been used. ²⁷⁴	
Primary Waste Parameter(s)	Other metals (lead)	
Special Notes	In WTS, the generator area code IC is used to identify the generator as INTEC. IC-021 is identical to ID-021. No IDC change is recommended. ²⁷⁴	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics	Unknown/Other Inorganic Sludges		S3000
S3129	BL-030	Solidified Grinding Sludge	
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal		
Waste Description	Inorganic sludge comprised of abrasive materials from grinding wheels dried to either powder or cake form. Waste may also contain <50% by volume debris waste (e.g., filters and rags) ^{50, 81}		
Inner Packaging	Packaged in 3-1/4 inch × 7-inch steel can and then wrapped in plastic. ³		
Drum Preparation	Rigid liner 17C or 6M drums		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Variations in packaging configurations have been observed by RTR (e.g., 6M packaging). If >50% by volume debris, recommend an IDC change.		

Combustibles	Organic Debris		S5000
S5300	RF-030	Plastic	
WIPP Status	WIPP Candidate		
Waste Description	IDC RF-030 existed prior to IDC RF-337 and as the predecessor IDC it is expected to include plastic and non-lead rubber waste debris items in the form of empty bottles, piping, tubing, glovebox windows, bags, tape, sheeting, and protective clothing (e.g., supplied air suits, surgeon's gloves, booties, respirator masks, parts and cartridges, and non-lead glovebox gloves), etc. Types of plastic include polyethylene, polypropylene, PVC, Teflon, tygon, and plexiglas. Types of rubber include latex, neoprene, hypalon and viton. Waste may also contain any amounts of cloth, paper and wood products including items such as wipes and paper. ⁵⁷ Waste may only contain <50% by volume glass and metal debris items (e.g., metal respirator cartridges, raschig rings, nails, cans, vials, bottles, lead sheeting, bolts, pipe, welding rods, batteries, tools, and wire).		
Inner Packaging	O-Ring bag / Poly bag or Poly bag / Poly bag Rigid liners are not expected in any of the drums packaged prior to 1972.		
Drum Preparation	Poly Drum Bag / Poly Drum Bag A limited number of drums are lead-lined.		
Primary Waste Parameter(s)	Plastic (waste materials), cellulose, rubber		
Special Notes	IDC RF-030 was used prior to June 1971 and appears to have been replaced by IDC RF-337. ⁹⁹ Containers with this IDC may be found in Cells 1 and 2, Pad 1. An IDC change to RF-330, RF-336 or RF-337 is not recommended because the waste was generated prior to the existence of these IDCs.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Lead/Cadmium Metal ⁹⁸	Unknown/Other Solids		S9000
S9000	BL-040	Solid Binary Scrap Powder	
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal		
Waste Description	Solid binary scrap (ceramic based UO ₂ and ThO ₂) in form of powder, pellets, or rods. Waste also contains fuel rods constructed of zirconium tubes filled with fuel pellets. Waste may also contain combustible waste. ^{50, 81}		
Inner Packaging	Packaged in 3-1/4 inch × 7 inch or 4-3/8 inch × 20 to 24 inch steel cans, and then wrapped in plastic (3 cans per drum). Fuel rods were packaged in 5-inch diameter steel pipe (10–20 rods per drum) ³		
Drum Preparation	6M shipping drums (either 55- or 100-gallon capacity) Lead shielding		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Up to 3 cans per drum. Variations in packaging configurations have been observed by RTR (e.g., 6M packaging). S5112 (metal debris with lead) and WMCG lead/cadmium metal were assigned to IN-W260 in 1995 TWBIR, but the WMC was conservatively changed to S9000. The final SCG/WMC will be determined when sufficient AK or RTR/VE data is available.		

Combustibles	Leaded Gloves/Aprons		S5000
S5311	RF-040	Rubber	
WIPP Status	WIPP Candidate		
Waste Description	IDC RF-040 existed prior to IDC RF-463 and as the predecessor IDC it is expected to include primarily neoprene/Hypalon leaded glovebox gloves and leaded aprons.		
Inner Packaging	O-Ring bag / Poly bag		
Drum Preparation	Rigid Liner / Poly Drum Bag / Poly Drum Bag Some drums may be lead-lined. Rigid liners are not expected in any of the drums packaged prior to 1972.		
Primary Waste Parameter(s)	Gloves and aprons are 100% rubber – assigned per CBFO (WAP Table B3-1)		
Special Notes	IDC RF-040 was used prior to June 1971 and appears to have been replaced by IDC RF-463. ⁹⁹ Containers with this IDC may be found in Cells 1 and 2, Pad 1. Be careful of liner bag wash out and wash out of less dense items. Aprons are identifiable by shoulder harness rings. Based on results of RTR examination of similar waste, this waste may contain prohibited liquids. An IDC change to RF-339 or RF-463 is not recommended, because the waste was generated prior to the existence of these IDCs.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Inorganic Particulate Absorbents	S3000
S3113	BL-050	Solidified Solutions	
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal		
Waste Description	This waste consists of plutonium and neptunium-bearing salts each separately solidified in a Pyrex beaker. ⁸¹		
Inner Packaging	Beaker/PVC sleeve/wide mouth plastic jar/stainless steel can/PVC sleeve/metal can/2R pipe		
Drum Preparation	Celotex discs are used to center the 2R pipe		
Primary Waste Parameter(s)	Iron-based metals, plastic (waste materials), other inorganic materials		
Special Notes	The two cans were placed inside a 2R pipe which was centered in a 55-gallon 17C drum. Variations in packaging configurations have been observed by RTR (e.g., 6M packaging).		

Uncategorized Metal		Metal Debris with Lead	S5000
S5112	RF-050	Metal Scrap	
WIPP Status	WIPP Candidate		
Waste Description	IDC RF-050 existed prior to IDC RF-480 and as the predecessor IDC it is expected to include iron, stainless steel, carbon steel, aluminum, copper, brass, and bronze metal scrap in the form of sheet, ducting, piping, tubing, angle iron, mechanical parts, electrical parts, wire, cable, foil, empty metal produce and paint cans, etc. Waste may also contain any amounts of lead (e.g., lead shielding, lead sheeting, scrap lead) but may only contain <50% by volume cellulose, plastic, rubber, glass, and other inorganic material debris items (e.g., items made of glass, concrete). ⁷³		
Inner Packaging	Poly bag / Poly bag or O-Ring bag / Poly bag. Waste may be in Fiberpaks.		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Some drums may be lead-lined (e.g., waste from americium lines). Rigid liners are not expected in any of the drums packaged prior to 1972.		
Primary Waste Parameter(s)	Iron-based metals/alloys, aluminum-based metals/alloys, other metals (e.g., lead, copper, brass, bronze) NOTE: <i>When the type of metal cannot be determined, use iron-based metals/alloys waste parameter.</i> ¹⁴		
Special Notes	IDC RF-050 was used prior to June 1971 and appears to have been replaced by IDC RF-480. ⁹⁹ Containers with this IDC may be found in Cells 1 and 2, Pad 1. Metal waste may contain a wide variety of manufactured items which may contain PCB items (such as ballasts, capacitors, or transformers). ⁴⁹ Lead cell batteries with liquids in excess of WAP limits or whose contents cannot be verified are prohibited from disposal at the WIPP facility. ³⁸ An IDC change to RF-320, RF-321, RF-480, or RF-481 is not recommended because the waste was generated prior to the existence of these IDCs.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Inorganic Non-Metal	Glass Debris	S5000
S5122	RF-060	Glass
WIPP Status	WIPP Candidate	
Waste Description	IDC RF-060 existed prior to IDC RF-440 and as the predecessor IDC it is expected to include glass items such as bottles, vials, light bulbs, labware, glovebox windows, lead-taped sample vials, crushed and ground glass. The materials may be composed of glass, ceramic, leaded glass or quartz. Absorbent material (Oil-Dri [®]) may be present. Waste may also contain <50% by volume cellulosic, plastic, rubber and metal debris items (e.g., glovebox window frames and gaskets, cans, nuts, bolts, tools, bottles, leaded rubber gloves and aprons, cardboard, wood, filters, light ballasts). ⁷²	
Inner Packaging	½ or 1-gallon Poly Bottles / Poly bag / Poly bag or O-Ring bag / Poly bag or Poly bag / Poly bag Waste may be packaged in Fiberpaks. Waste (light bulbs, fluorescent tubes) may be placed directly into container.	
Drum Preparation	Poly Drum Bag / Poly Drum Bag Cardboard liner drum may be present A small number of drums are lead-lined Rigid liners are not expected in any of the drums packaged prior to 1972.	
Primary Waste Parameter(s)	Other Inorganic Materials NOTE: <i>If leaded glass, then use a 50/50 ratio for the lead (other metals) and glass (other inorganic materials)</i>	
Special Notes	IDC RF-060 was used prior to June 1971 and appears to have been replaced by IDC RF-440. ⁹⁹ Containers with this IDC may be found in Cells 1 and 2, Pad 1. Waste may have light ballasts (which may contain PCBs). Leaded glass appears to become denser as rotated because a larger cross section of glass must be penetrated. Waste may also contain lead-taped glass bottles and vials. ⁷⁷ An IDC change to RF-440 is not recommended because the waste was generated prior to the existence of this IDC.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Graphite	Graphite Debris	S5000
S5126	RF-070	Graphite
WIPP Status	WIPP Candidate	
Waste Description	IDC RF-070 existed prior to IDC RF-300 and as the predecessor IDC it is expected to include graphite molds, cores, spacers, and electrodes from plutonium casting operations. The graphite may include broken or whole molds, small pieces, or fines. Waste may also contain <50% by volume cellulosic, plastic, rubber, glass, and metal materials (e.g., paper, cardboard, elastic bands, tubing, surgeon's gloves, thermocouples, bolts, tools).	
Inner Packaging	Poly bottle / O-Ring bag / Poly bag O-Ring bag / Poly bag Some drums may include graphite packaged in Kraft Tubes ^{61, 91}	
Drum Preparation	Poly Drum Bag / Poly Drum Bag or Poly Drum Bag / O-Ring bag Rigid liners are not expected in any of the drums packaged prior to 1972.	
Primary Waste Parameter(s)	Other inorganic materials	
Special Notes	IDC RF-070 was used prior to June 1971 and appears to have been replaced by IDC RF-300. ⁹⁹ Containers with this IDC may be found in Cells 1 and 2, Pad 1. Waste pieces may be in poly bottles. The O-ring bags will be lined with a fiberboard liner and may include a fiberboard disc. An IDC change to RF-300, RF-301, RF-303, RF-310 or RF-312 is not recommended because the waste was generated prior to the existence of these IDCs.	

Uncategorized Metal	Unknown/Other Solids	S9000
S9000	RF-080	Equipment
WIPP Status	WIPP Candidate	
Waste Description	IDC RF-080 existed prior to IDC RF-980 and as the predecessor IDC it is expected to include unknown equipment, complete information is not available.	
Inner Packaging	May contain poly bags	
Drum Preparation	May contain poly bags Rigid liners are not expected in any of the drums packaged prior to 1972.	
Primary Waste Parameter(s)	<i>Not currently available</i>	
Special Notes	IDC RF-080 was used prior to June 1971 and appears to have been replaced by IDC RF-980. ⁹⁹ Containers with this IDC may be found in Cells 1 and 2, Pad 1. An IDC change to RF-980 is not recommended because the waste was generated prior to the existence of this IDC. S9000 (Unknown/Other Solids) was conservatively assigned to this waste. The final WMC will be determined when sufficient AK or RTR/VE data is available.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Uncategorized Metal ⁹⁸	Unknown/Other Special Waste	X7000
X7900	BL-081	Metal Samples Fissile
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Description	The waste consists of 17 drums of unirradiated fuel-bearing metallographic mounts. The mount material is identified as Quickmont Powder and liquid, which are non-hazardous materials per the Resource Conservation and Recovery Act (RCRA). ⁸¹	
Inner Packaging	Metal "juice can" with roll-seam lid 43 to 91 cans per drum	
Drum Preparation	Rigid liner	
Primary Waste Parameter(s)	<i>Not currently summarized</i>	
Special Notes	Variations in packaging configurations have been observed by RTR (e.g., 6M packaging). S3100 (Inorganic Homogeneous Solids) and WMCG Uncategorized Metal were assigned to IN-W372 in the 1995 TWBIR. ⁹⁸ The SCG and WMC were changed to X7000 (Special Waste) and X7900 (Unknown/Other Special Waste), respectively. The final WMC will be determined when sufficient AK or RTR/VE data is available.	

Soils	Soil/Debris	S4000
S4200	RF-090	Dirt
WIPP Status	WIPP Candidate	
Waste Description	Dry dirt or soil generated during operations such as cleanup of spills or leaks. Waste could be damp and may include evaporator pond sludge. Waste may also contain <50% by volume combustible debris items (e.g., coveralls, gloves). ³	
Inner Packaging	Soil may be single or double bagged in small poly bags or directly loaded into the drum	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag / Fiberboard liner Up to 2 quarts Oil-Dri [®] added on top of outer sealed Poly drum bag.	
Primary Waste Parameter(s)	Soils/gravel	
Special Notes	Based on RTR results, waste may contain aerosol cans, prohibited liquids, sealed containers >4 liters, sharp objects, or impenetrable objects/waste. ²⁴³ WMC S4200/IDC RF-090 can ONLY be used if >50% by volume soil or gravel (natural geologic material ≤2.36 inches [60 millimeters]). If >50% by volume debris, including rocks (natural geologic materials >2.36 inches [60 millimeters]), recommend change to IDC RF-960. If indeterminate, recommend change to IDC UN-00A or UN-00C and an AK evaluation will be performed. IDC RF-090 was replaced by RF-990 in early 1972; IDC RF-374 was used by RF for similar waste generated before and after this date. ^{3, 97, 152}	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics		Biological Sludges		S3000
S3221	RF-095	Sewer Sludge		
WIPP Status	WIPP Candidate			
Waste Description	Organic sludge from cleaning the stabilization ponds at the Building 995 sewage treatment plant. If sludge was wet, cement was added in layers as the sludge was placed into drum.			
Inner Packaging	Direct loaded into the waste drum			
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / O-Ring bag Portland cement added to top and bottom in inner drum bag.			
Primary Waste Parameter(s)	Organic Matrix			
Special Notes	<p>Based on RTR results of drums of other RF bulk or direct sludge, this waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum.</p> <p>Visual examination of this bulk or direct loaded sludge waste packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>May have cement in drum, rigid liner, poly drum bag.</p> <p>IDC RF-095 was replaced by IDC RF-995 in early 1972 and RFP discontinued shipping sewer sludge to INL in 1976.^{3, 97, 152}</p>			

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	AE-100	General Plant Waste	
WIPP Status	Potential WIPP Candidate		
Waste Description	Waste contains, but is not limited to: combustible and non-combustible items such as: aluminum, stainless steel, and iron items; cans, lids, trays, wire, targets, disks, gauges, pipe, fittings, valves, bolts, clips, screws, tubing, tools (e.g., forceps, vise, tweezers, scissors, pliers, razor knives, and saw blades), screens, planchettes, foil, columns, racks, unistruts, pressure cookers, copper, lead, brass items; pipe, tubing, fittings, sheeting, lead shot, boxes, glass and ceramic items; bottles, jars, lab ware (e.g., pipettes, vials, flasks, beakers, syringes, and test tubes), crucibles (magnesium and beryllium oxide), leaded glass panes, and insulation (fiber glass and asbestos), paper, cardboard, cloth, wood items; rags, towels, filters, cartons, boxes, PPE (e.g., suits, booties, gloves, filter cartridges, tape), lab coats, gloves (leather), gloves, tubing, O-rings, stoppers, cords, gaskets, bottles, metal lids, PPE (e.g., gloves, filter cartridges, tape), bags, sheeting, epoxy sample/source mounts, and rope (nylon), plastic and glass bottles, glass, small tools, balances, and empty metal cans. Waste may also contain <50% by volume absorbed organic waste packaged in 1-gallon poly bottles. ^{248, 250, 256, 257, 258, 259, 262}		
Inner Packaging	Poly bags / 4-inch diameter by 8-inch high aluminum cans or ½ and 1-gallon metal cans or poly bottles placed in 3- or 5-gallon paint cans with crimp on lids. ^{3, 248, 250, 254, 255, 256, 257, 258, 259, 262}		
Drum Preparation	Some containers may include Type-3 drum liners.		
Bin Preparation	Waste in bins is usually segregated (e.g., combustible versus non-combustible). Waste may be packaged in 55-gallon drums placed in MIII bins or waste may be packaged in 3-, 5-, or 30-gallon containers and placed in MIII bins. ^{117, 248, 250, 262}		
Primary Waste Parameter(s)	Cellulosics, rubber, plastics (waste materials), iron-based metals/alloys, other inorganic materials		
Special Notes	<p>Waste may contain gas cylinders and aerosol cans. Sealed cylinders or vessels may contain reactive material. Piping and laboratory lines with stop valves or manifold systems may be pressurized or contain liquids.</p> <p>After 1974 containers with combustible waste are labeled with green triangle. ³</p> <p>Prior to 1981, liquids absorbed on vermiculite were packaged in 1-gallon poly bottles which were placed in 3-gallon paint can with vermiculite filling the void space. Several 3-gallon paint cans were placed into a 55-gallon drum. Absorbed liquids may also be packaged in 5-gallon containers. ³ RTR has also identified bins containing 55-gallon drums and other drums/buckets of various sizes of bulk or direct loaded homogeneous solids (e.g., no inner containers). ¹¹⁷ If >50% by volume homogeneous solids, recommend an IDC change to AE-102.</p> <p>IDC AE-102 and AE-105 that are >50% debris based on RTR will be changed to AE-100. See AE-102 and AE-105 for packaging and other information.</p> <p>Based on observations during retrieval, MIII bins of AE-100 may be painted white.</p>		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	AE-101	Cut Up Gloveboxes	
WIPP Status	Potential WIPP Candidate		
Waste Description	<p>Glove box sections (1/4 to 1-1/4-inch-thick stainless steel or aluminum), equipment that may have been size reduced (e.g., lathes, milling machines, rolling mills, furnaces), and associated tools, glassware, piping, filters, hydraulic cylinders (8 and 10-inches in diameter), gas cylinders (<1 foot in diameter and <4 feet long) and cinderblocks from D&D operations and other combustible and non-combustible items such as: aluminum, stainless steel, and iron items; cans, lids, trays, wire, targets, disks, gauges, pipe, fittings, valves, bolts, clips, screws, tubing, tools (e.g., forceps, vise, tweezers, scissors, pliers, razor knives, and saw blades), screens, planchettes, foil, columns, racks, unistruts, pressure cookers; copper, lead, brass items; pipe, tubing, fittings, sheeting, lead shot; boxes, glass and ceramic items; bottles, jars, lab ware (e.g., pipettes, vials, flasks, beakers, syringes and test tubes), crucibles (magnesium and beryllium oxide), leaded glass panes, and insulation (fiber glass and asbestos); paper, cardboard, cloth, wood items; rags, towels, filters, cartons, boxes, PPE (e.g., suits and booties), lab coats, gloves (leather), gloves, tubing, O-rings, stoppers, cords, gaskets, bottles, metal lids, PPE (e.g., gloves, filter cartridges, tape), bags, sheeting, epoxy sample/source mounts, and rope (nylon), plastic and glass bottles, glass, small tools, balances, and empty metal cans. Waste may also contain <50% by volume absorbed organic liquids in poly bottles. ^{3, 248, 250, 262}</p>		
Inner Packaging	<p>Miscellaneous items in heat sealed poly bags, glovebox windows are double wrapped in polyethylene, glovebox sections wrapped in one or more layers of polyethylene, large metal items may or may not be plastic bagged. ^{3, 248, 250, 254, 255, 256, 257, 258, 259, 262}</p>		
Bin Preparation	<p>MIII bins with half or full-size poly liners or wooden boxes. ^{3, 248, 250} Several pounds of vermiculite were added to bins. ^{248, 250, 262}</p>		
Primary Waste Parameter(s)	Other inorganic materials (e.g., glass), iron-based metals/alloys (e.g., glovebox)		
Special Notes	<p>The gas cylinders were reported to have been vented and the valves left in the open position prior to packaging. ^{248, 250} Lubricating, cooling, and functional fluids (oils) were drained from the waste items and included in poly bottles as absorbed liquids. ^{248, 250} The waste contains similar material inputs as AE-100 wastes. ^{248, 250, 256, 257, 258, 259}</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics		Unknown/Other Homogeneous Solids		S3000
S3900	AE-102	Absorbed Liquids		
WIPP Status	Potential WIPP Candidate			
Waste Description	Various organic and inorganic absorbed liquids and homogeneous solids from multiple ANL-E buildings. Wastes include but are not limited to: precipitates, oils, ether-based scintillation fluids, decontamination liquids, ion exchange resins, evaporator residues and may include absorbed photographic solutions and other solid or semisolid materials. Liquid wastes were neutralized with the addition of NaOH, and absorbed onto vermiculite or Oil-Dri. The waste may contain Portland cement and may also contain <50% by volume heterogeneous debris waste. ^{248, 250, 256, 257, 258, 259, 262}			
Inner Packaging	None (direct loaded) ^{250, 251, 252, 253, 254, 262}			
Drum Preparation	90 mil polyethylene liner.			
Bin Preparation	Drums were unloaded from bins upon receipt from ANL-E; however, 15 bins of AE-102 waste are identified in WTS.			
Primary Waste Parameter(s)	Organic matrix, inorganic matrix, other inorganic materials (see Special Notes)			
Special Notes	<p>Prior to the mid 1980s, content Code 102 (currently IDC AE-102) was used for all ANL-E homogeneous solids waste).^{257, 258, 259}</p> <p>Organic matrix may be conservatively assigned to this waste.</p> <p>For AE-102 that is >50% debris, recommend AE-100.</p> <p>Based on observations during retrieval, MIII bins of AE-102 may be painted red.</p>			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	AE-104	Alpha Hot Cell Waste	
WIPP Status	Potential WIPP Candidate		
Waste Description	Wastes include, but are not limited to: items made of polyvinyl chloride, polypropylene, polyethylene, polyurethane, neoprene, Bakelite, butyl rubber O-rings, Q-tips, lab equipment, tools, fixtures, glassware, pipe, tubing fittings, fasteners, insulating firebrick, small lead weights, ferrous and non-ferrous metal scraps, electric motors, slave manipulators, aluminum, stainless steel, and iron items; cans, lids, trays, wire, targets, disks, gauges, pipe, fittings, valves, bolts, clips, screws, tubing, tools (e.g., forceps, vise, tweezers, scissors, pliers, razor knives, and saw blades), screens, planchettes, foil, columns, racks, unistruts, pressure cookers; copper, lead, brass items; pipe, tubing, fittings, sheeting, lead shot, boxes; glass and ceramic items; bottles, jars, lab ware (e.g., pipettes, vials, flasks, beakers, syringes and test tubes), crucibles (magnesium and beryllium oxide), leaded glass panes, and insulation (fiber glass and asbestos); paper, cardboard, cloth, wood items; rags, towels, filters, cartons, boxes, PPE (e.g., suits and booties), lab coats, gloves (leather), gloves, tubing, O-rings, stoppers, cords, gaskets, bottles, metal lids, PPE (e.g., gloves, filter cartridges, tape), bags, sheeting, epoxy sample/source mounts, and rope (nylon), plastic and glass bottles, glass, small tools, balances, and empty metal cans. ^{248, 250, 262}		
Inner Packaging	Waste may be loose, plastic-bagged, or packaged in 4 × 10-inch portal cans or one-gallon paint cans prior to placing waste in 7 1/2-gallon steel buckets bagged in 20-mil PVC heat sealed bag which was placed into 30-gallon drum (2 buckets per drum). ^{248, 250, 254, 255, 256, 257, 258, 259, 262}		
Drum Preparation	Some 30-gallon drums were loaded directly into lead shielded cask. ²⁴⁸ Drums were unloaded from casks at INEL prior to storage. Other drums were overpacked into MIII bins.		
Bin Preparation	MIII-bins containing drums were loaded into lead shielded casks. Bins were unloaded from casks at INEL prior to storage. ^{248, 250}		
Primary Waste Parameter(s)	<i>Not currently summarized</i>		
Special Notes	This waste was initially identified as potentially remote handled. Some metal or glass containers were compacted prior to packaging. ^{248, 250} Waste in bins was usually segregated (combustible versus non-combustible). ^{248, 250} The waste contains similar material inputs as AE-100 wastes. ^{248, 250, 256, 257, 258, 259}		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Inorganics		Unknown/Other Homogeneous Solids	S3000
S3900	AE-105	Empty Bottles and Absorbent	
WIPP Status	Potential WIPP Candidate		
Waste Description	Waste consists of empty polyethylene and glass bottles used at ANL-E to transport liquid waste (AE-102) for treatment. The waste may also contain <50% by volume heterogeneous debris waste. ^{248, 256, 257, 258, 259, 262}		
Inner Packaging	None ^{248, 251, 252, 253, 254, 262}		
Drum Preparation	90 mil liner Void space in drum was filled with vermiculite		
Bin Preparation	Drums were unloaded from bins upon receipt from ANL-E; however, 1 bin of AE-105 waste is identified in WTS.		
Primary Waste Parameter(s)	Other inorganic materials, plastics (waste materials)		
Special Notes	Bottles may have lids and those >4 liters should be considered to be sealed containers. At one point the ANL-E content Code 105 description reflected glass. For AE-105 that is >50% debris, recommend AE-100.		

Heterogeneous Debris Waste ⁹⁸		Heterogeneous Debris	S5000 ⁹⁸
S5400 ⁹⁸	AE-106	Special Source Material (UNK)	
WIPP Status	Potential WIPP Candidate		
Waste Description	Waste contains, but is not limited to: combustible and non-combustible items such as: aluminum, stainless steel, and iron items; cans, lids, trays, wire, targets, disks, gauges, pipe, fittings, valves, bolts, clips, screws, tubing, tools (e.g., forceps, vise, tweezers, scissors, pliers, razor knives, and saw blades), screens, planchettes, foil, columns, racks, unistruts, pressure cookers; copper, lead, brass items; pipe, tubing, fittings, sheeting, lead shot, boxes; glass and ceramic items; bottles, jars, lab ware (e.g., pipettes, vials, flasks, beakers, syringes, and test tubes), crucibles (magnesium and beryllium oxide), leaded glass panes, and insulation (fiber glass and asbestos); paper, cardboard, cloth, wood items; rags, towels, filters, cartons, boxes, PPE (e.g., suits and booties), lab coats, gloves (leather), gloves, tubing, O-rings, stoppers, cords, gaskets, metal lids, PPE (e.g., gloves, filter cartridges, tape), bags, sheeting, epoxy sample/source mounts, and rope (nylon), plastic and glass bottles, glass; small tools, balances, and empty metal cans. Waste may also contain <50% by volume absorbed organic waste packaged in 1-gallon poly bottles. ^{256, 257, 258, 259, 262}		
Inner Packaging	Poly bags / 4-inch-diameter by 8-inch-high aluminum cans or 1/2- and 1-gallon metal cans or poly bottles placed in 3- or 5-gallon paint cans with crimp on lids ^{3, 254, 255, 256, 257, 258, 259, 262}		
Drum Preparation	No drum liners identified		
Primary Waste Parameter(s)	Cellulosics, rubber, plastics (waste materials), iron-based metals/alloys, other inorganic materials		
Special Notes	S9000 (unknown/other solids) and WMCG heterogeneous debris waste were assigned to IN-W350 in 1995 TWBIR. ⁹⁸ The waste contains similar material inputs as AE-100 wastes. ^{250, 256, 257, 258, 259}		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste ⁹⁸		Heterogeneous Debris	S5000 ⁹⁸
S5400 ⁹⁸	AE-107	RH waste	
WIPP Status	Potential WIPP Candidate		
Waste Description	Waste contains, but is not limited to: combustible and non-combustible items such as: aluminum, stainless steel, and iron items; cans, lids, trays, wire, targets, disks, gauges, pipe, fittings, valves, bolts, clips, screws, tubing, tools (e.g., forceps, vise, tweezers, scissors, pliers, razor knives, and saw blades), screens, planchettes, foil, columns, racks, unistruts, pressure cookers, copper, lead, brass items; pipe, tubing, fittings, sheeting, shot, boxes, glass and ceramic items; bottles, jars, lab ware (e.g., pipettes, vials, flasks, beakers, syringes and test tubes), crucibles (magnesium and beryllium oxide), leaded glass panes, and insulation (fiber glass and asbestos), paper, cardboard, cloth, wood items; rags, towels, filters, cartons, boxes, PPE (e.g., suits, booties, gloves, filter cartridges, tape), lab coats, gloves (leather), gloves, tubing, O-rings, stoppers, cords, gaskets, bottles, metal lids, bags, sheeting, epoxy sample/source mounts, and rope (nylon), plastic and glass bottles, glass, small tools, balances, and empty metal cans. Waste may also contain <50% by volume absorbed organic waste packaged in 1-gallon poly bottles. ^{256, 257, 258, 259, 262}		
Inner Packaging	Poly bags / 4-inch-diameter by 8-inch-high aluminum cans or 1/2- and 1-gallon metal cans or poly bottles placed in 3- or 5-gallon paint cans with crimp on lids. ^{3, 254, 255, 256, 257, 258, 259, 262}		
Drum Preparation	No drum liners identified		
Primary Waste Parameter(s)	Cellulosics, rubber, plastics (waste materials), iron-based metals/alloys, other inorganic materials		
Special Notes	S9000 (unknown/other solids) and WMCG heterogeneous debris waste were assigned to IN-W349 in 1995 TWBIR. ⁹⁸ The waste contains similar material inputs as AE-100 wastes. ^{256, 257, 258, 259}		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	AE-110	Research Generated Waste	
WIPP Status	Potential WIPP Candidate		
Waste Description	Waste contains, but is not limited to: combustible and non-combustible items such as: aluminum, stainless steel, and iron items; cans, lids, trays, wire, targets, disks, gauges, pipe, fittings, valves, bolts, clips, screws, tubing, tools (e.g., forceps, vise, tweezers, scissors, pliers, razor knives, and saw blades), screens, planchettes, foil, columns, racks, unistruts, pressure cookers, copper, lead, brass items; pipe, tubing, fittings, sheeting, shot, boxes, glass and ceramic items; bottles, jars, lab ware (e.g., pipettes, vials, flasks, beakers, syringes and test tubes), crucibles (magnesium and beryllium oxide), leaded glass panes, and insulation (fiber glass and asbestos), paper, cardboard, cloth, wood items; rags, towels, filters, cartons, boxes, PPE (e.g., suits, booties, gloves, filter cartridges, tape), lab coats, gloves (leather), gloves, tubing, O-rings, stoppers, cords, gaskets, bottles, metal lids, bags, sheeting, epoxy sample/source mounts, and rope (nylon), plastic and glass bottles, glass, small tools, balances, and empty metal cans. Waste may also contain <50% by volume absorbed organic waste packaged in 1-gallon poly bottles. ^{248, 256, 257, 258, 259, 262}		
Inner Packaging	Poly bags / 4-inch diameter by 8-inch high aluminum cans or ½ and 1-gallon metal cans or poly bottles placed in 3- or 5-gallon paint cans with crimp on lids ^{3, 255, 254, 256, 257, 258, 259, 262}		
Drum Preparation	No drum liners identified		
Bin Preparation	Waste in bins is usually segregated (e.g., combustible versus non-combustible). Waste may be packaged in 55-gallon drums placed in MIII bins or waste may be packaged in 3-gallon, 5-gallon or 30-gallon containers and placed in MIII bins. ¹¹⁷		
Primary Waste Parameter(s)	Cellulosics, rubber, plastics (waste materials), iron-based metals/alloys, other inorganic materials		
Special Notes	The waste was first identified in the mid to late 1980s and early 1990s during RWMC SWEPP operations. The waste prior to this time was identified as content Code 100 (or AE-100 IDC). It contains similar material inputs as AE-100 wastes. ^{248, 256, 257, 258, 259}		

Solidified Organics		Unknown/Other Homogeneous Solids	S3000
S3900	AE-111	Solidified Wet Sludge	
WIPP Status	Potential WIPP Candidate		
Waste Description	Various organic and inorganic absorbed liquids and homogeneous solids from multiple ANL-E buildings. Wastes include but are not limited to: precipitates, oils, ether-based scintillation fluids, decontamination liquids, ion exchange resins, evaporator residues and may include absorbed photographic solutions and other solid or semisolid materials. Liquid wastes were neutralized with the addition of NaOH, and absorbed onto vermiculite or Oil-Dri. The waste may contain Portland cement and may also contain <50% by volume heterogeneous debris waste. ^{248, 254, 256, 257, 258, 259, 262}		
Inner Packaging	Direct loaded or in one-gallon containers. ^{248, 251, 252, 253, 262}		
Drum Preparation	90 mil polyethylene liner.		
Primary Waste Parameter(s)	Organic matrix, inorganic matrix, other inorganic materials. (see Special Notes)		
Special Notes	The waste was first identified in the mid to late 1980s and early 1990s during RWMC SWEPP operations. The waste prior to this time was identified as content Code 102 (or AE-102 IDC). It contains similar material inputs as AE-102 wastes. ^{248, 256, 257, 258, 259} Organic Matrix may be conservatively assigned to this waste.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BX-111	Miscellaneous Source Material	
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal		
Waste Description	<i>Not currently summarized</i>		
Inner Packaging	<i>Not currently summarized</i>		
Drum Preparation	<i>Not currently summarized</i>		
Primary Waste Parameter(s)	<i>Not currently summarized</i>		
Special Notes	TBD		

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	AE-120	D and D Waste Comp. and Comb. Solids	
WIPP Status	Potential WIPP Candidate		
Waste Description	Waste contains, but is not limited to: combustible and non-combustible items such as: aluminum, stainless steel, and iron items; cans, lids, trays, wire, targets, disks, gauges, pipe, fittings, valves, bolts, clips, screws, tubing, tools (e.g., forceps, vise, tweezers, scissors, pliers, razor knives, and saw blades), screens, planchettes, foil, columns, racks, unistruts, pressure cookers, copper, lead, brass items; pipe, tubing, fittings, sheeting, shot, boxes, glass and ceramic items; bottles, jars, lab ware (e.g., pipettes, vials, flasks, beakers, syringes and test tubes), crucibles (magnesium and beryllium oxide), leaded glass panes, and insulation (fiber glass and asbestos), paper, cardboard, cloth, wood items; rags, towels, filters, cartons, boxes, PPE (e.g., suits, booties, gloves, filter cartridges, tape), lab coats, gloves (leather), gloves, tubing, O-rings, stoppers, cords, gaskets, bottles, metal lids, PPE (e.g., gloves, filter cartridges, tape), bags, sheeting, epoxy sample/source mounts, and rope (nylon), plastic and glass bottles, glass, small tools, balances, and empty metal cans. Waste may also contain <50% by volume absorbed organic waste packaged in 1-gallon poly bottles. ^{248, 256, 257, 258, 259, 262}		
Inner Packaging	Poly bags / 4-inch-diameter by 8-inch-high aluminum cans or 1/2- and 1-gallon metal cans or Poly bottles placed in 3- or 5-gallon paint cans with crimp on lids ^{3, 254, 255, 256, 257, 258, 259, 262}		
Drum Preparation	No drum liners identified		
Primary Waste Parameter(s)	Cellulosics, rubber, plastics (waste materials), iron-based metals/alloys, other inorganic materials		
Special Notes	The waste was first identified in the mid to late 1980s and early 1990s during RWMC SWEPP operations. The waste prior to this time was identified as content Code 100 (or AE-100 IDC). It contains similar material inputs as AE-100 wastes. ^{248, 256, 257, 258, 259}		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics		Unknown/Other Homogeneous Solids	S3000
S3900	AE-121	TRU Organic Solid Waste	
WIPP Status	Potential WIPP Candidate		
Waste Description	Various organic and inorganic absorbed liquids and homogeneous solids from multiple ANL-E buildings. Wastes include but are not limited to: precipitates, oils, ether-based scintillation fluids, decontamination liquids, ion exchange resins, evaporator residues and may include absorbed photographic solutions and other solid or semisolid materials. Liquid wastes were neutralized with the addition of NaOH, and absorbed onto vermiculite or oil-Dri. The waste may contain Portland cement and may also contain <50% by volume heterogeneous debris waste. ^{248, 256, 257, 258, 259, 262}		
Inner Packaging	Direct loaded or in one-gallon containers. ^{248, 251, 252, 253, 254, 262}		
Drum Preparation	90 mil polyethylene liner.		
Primary Waste Parameter(s)	Organic matrix, inorganic matrix, other inorganic materials. (see Special Notes)		
Special Notes	The waste was first identified in the mid to late 1980s and early 1990s during RWMC SWEPP operations. The waste prior to this time was identified as content Code 102 (or AE-102 IDC). It contains similar material inputs as AE-102 wastes. ^{248, 256, 257, 258, 259} Organic Matrix may be conservatively assigned to this waste.		

Heterogeneous Debris Waste		Debris Waste	S5000
S5000	MX-142	Scrap Processing Equipment	
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal		
Waste Description	<i>Not currently summarized</i>		
Inner Packaging	<i>Not currently summarized</i>		
Drum Preparation	<i>Not currently summarized</i>		
Primary Waste Parameter(s)	<i>Not currently summarized</i>		
Special Notes	TBD		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris Waste	S5000
S5490	AW-150	Laboratory Waste	
WIPP Status	WIPP Candidate		
Waste Description	Laboratory debris waste generated at ANL-W may include laboratory equipment (e.g., fission counters, sonic sifter), electric saw, welder controllers, tool boxes, hand tools (e.g., metal files, wire brushes, hacksaw and blades), grinder motors, pumps, fluxwire, thermocouple wire, other wire (aluminum, steel, and other metal), miscellaneous laboratory ware (e.g., beakers, polyethylene bottles), cans containing crushed glass or combustibles, foil (aluminum, tin, plutonium, or tantalum), sponges, pipette tips, paint cans (e.g., one pint or one gallon), paper, polyvinyl chloride (PVC) bags, polyethylene bags and materials, ceramics, PPE (e.g., Tyvek coveralls, anti-Cs), cloth rags, terri-towels, glove port rings, nylon gloveport blanks, O-rings, gloves (e.g., neoprene, rubber, nitrile, leather), leaded gloves, thermal gloves, crucibles, filters with wood and metal frames, HEPA filters, pre-filters, filter media, ion exchange resins, Pu-Be sources, Pu standards, irradiated GE caps, wood, rubber tubing, piping and miscellaneous metal pieces, asbestos floor tile and insulation, sample planchettes, aluminum capsules, uranium pellets, actinide neutron sources, a radium needle, small vials of fuel, metal containers of experimental fuel capsules, a plastic glovebox, centrifuges, tools, and experimental fuel capsules. Waste may also contain <50% by volume analytical samples and pellets dissolved and absorbed on Oil-Dri ^{3, 98, 265}		
Inner Packaging	Prior to 1978, plastic-lined containers After 1977, plastic, glass or metal containers (that may be wrapped in plastic) were placed in lined containers		
Drum Preparation	One or two drum bags Oil-Dri [®] added to top of drum bags		
Primary Waste Parameter(s)	Other metals, other inorganic materials, plastics (waste materials), rubber, cellulose NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	If >50% by volume homogeneous solids (e.g., absorbent), recommend change to IDC UN-00A.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste	Unknown/Other Heterogeneous Debris Waste		S5000
S5490	IC-150	Laboratory Waste	
WIPP Status	WIPP candidate		
Waste Information	See IDC ID-150		
Special Notes	<p>In WTS, the generator area code IC is used to identify INTEC as the generator. IC-150 is identical to ID-150 and no IDC change is recommended.</p> <p>IDCs IC-150 and ID-150 were associated with INTEC/RWMC laboratory operations and may contain or may have been derived from unused hydrofluoric acid product (HWN U134). U134 waste with any observable liquid is prohibited from disposal at WIPP. ²⁷⁴</p>		

Heterogeneous Debris Waste	Unknown/Other Heterogeneous Debris Waste		S5000
S5490	ID-150	Laboratory Waste	
WIPP Status	WIPP candidate		
Waste Description	<p>Waste includes, but is not limited to: paper (Kimwipes, blotter paper), PPE, wood, plastic, (plastic bags, sheeting, rad bags), cloth (mop heads, anti-C clothing, rags, Terri towels), metal (piping, ducting, file cabinets, bolt cutters, metal sheeting, process equipment, cones, cans, disks, tools), flux wands, Mark-IV needle, lead, lab ware (jars, pipettes, vials, flasks, beakers, syringes and test tubes), uncemented resin, broken and unbroken glassware (bottles, jars, vials, flasks, beakers, test tubes), radioactive sources (oxides of plutonium, americium, and 235U) in aluminum or stainless steel capsules, gloves, and funnels. Oil-Dri®, vermiculite, diatomaceous earth, or other absorbent may have been added to absorb moisture. Waste may also contain < 50% by volume unused samples, dissolved samples absorbed on Oil-Dri® or other absorbent, or analytical samples, and may contain organics from laboratory operations. ^{3, 98, 274}</p>		
Inner Packaging	<p>Waste may be double bagged or it may be loosely packaged in a drum bag along with <50 % by volume homogeneous solid waste or soil/gravel/cobble/sand. Waste may include plastic (poly jugs, 20-gallon carboys [vented]), glass, or metal (1-gallon, 30-gallon drums [vented]) internal containers. ²⁷⁴</p>		
Drum Preparation	<p>A drum liner (e.g., 90-mil high-density polyethylene) may be present. ²⁷⁴</p>		
Box Preparation	<p>Odd sized crates, SWBs and FRPs may or may not include smaller containers (e.g., 5-30 plastic/poly bottles/carboys, glass and metal containers or 30-gallon inner containers). An SWB/FRP liner may be present. ²⁷⁴</p>		
Primary Waste Parameter(s)	Other Metals, Other Inorganic Materials, Plastics (waste materials), Rubber, Cellulosics		
Special Notes	<p>Based on RTR results, waste may contain impenetrable objects. ²⁴³</p> <p>In WTS, the generator area code IC is used to identify INTEC as the generator. IC-150 is identical to ID-150 and no IDC change is recommended.</p> <p>IDCs IC-150 and ID-150 were associated with INTEC/RWMC laboratory operations and may contain or may have been derived from unused hydrofluoric acid product (HWN U134). U134 waste with any observable liquid is prohibited from disposal at WIPP. ²⁷⁴</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris Waste	S5000
S5490	IF-150	Laboratory Waste	
WIPP Status	WIPP Candidate		
Waste Description	Waste includes, but is not limited to: paper (Kimwipes, blotter paper), PPE, wood, plastic, (plastic bags, sheeting, rad bags), cloth (mop heads, anti-C clothing, rags, Terri towels), metal (piping, ducting, file cabinets, bolt cutters, metal sheeting, process equipment, cones, cans, disks, tools), flux wands, Mark-IV needle, lead, lab ware (jars, pipettes, vials, flasks, beakers, syringes and test tubes), uncemented resin, broken and unbroken glassware (bottles, jars, vials, flasks, beakers, test tubes), radioactive sources (oxides of plutonium, americium, and ²³⁵ U) in aluminum or stainless steel capsules, gloves, and funnels. Oil-Dri [®] , vermiculite, diatomaceous earth, or other absorbent may have been added to absorb moisture. Waste may also contain <50% by volume unused samples, dissolved samples absorbed on Oil-Dri [®] or other absorbent, or analytical samples, and may contain organics from laboratory operations. ^{3, 98, 274}		
Inner Packaging	Waste may be double-bagged or it may be loosely packaged in a drum bag along with <50 % by volume homogeneous solid waste or soil/gravel/cobble/sand. Waste may include plastic (poly jugs, 20-gallon carboys [vented]), glass, or metal (1-gallon, 30-gallon drums [vented]) internal containers. ²⁷⁴		
Drum Preparation	A drum liner (e.g., 90-mil high-density polyethylene) may be present. ²⁷⁴		
Box Preparation	Odd sized crates, SWBs and FRPs may or may not include smaller containers (e.g., 5-, 30-gallon plastic/poly bottles/carboys, glass and metal containers or 30-gallon inner containers). An SWB/FRP liner may be present. ²⁷⁴		
Primary Waste Parameter(s)	Other Metals, Other Inorganic Materials, Plastics (waste materials), Rubber, Cellulosics		
Special Notes	Based on RTR results, waste may contain impenetrable objects. ²⁴³ IDC IF-150 was not associated with INTEC/RWMC laboratory operations. ²⁷⁴		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Uncategorized Metal	Debris Waste	S5000
S5000	IC-152	Pu Neutron Sources
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Information	See IDC ID-152	
Special Notes	Most of this waste has been identified as RH-TRU and returned to RWMC. In WTS, the generator area codes IC, IN, and IT are used to identify the generator instead of the generator site code (i.e., IDCs IC-152, IN-152, or IT-152 are used instead of IDC ID-152 in WTS). No IDC change is recommended.	

Uncategorized Metal	Debris Waste	S5000
S5000	ID-152	Pu Neutron Sources
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Description	Waste includes Pu-Be neutron sources, Pu standard, Pu foil, tools, and non-combustible waste. Waste from TAN may be encapsulated in cement. ³	
Inner Packaging	Package date 1975: ²³⁹ Pu-Be sources from TAN were placed in carbon steel pipe, which was centered in drum. Cement was added, filling annular space of the drum and encapsulating the pipe containing the sources. ^{3,97} Package date 1978: None specified for ²³⁸ Pu-Be sources from NRF. ^{3,97}	
Drum Preparation	Plastic liners were used. ³ Drums packaged in 1978 were 6M 55-gallon drums. ^{3,97}	
Bin Preparation	INTEC waste was packaged in a bin. ⁹⁷	
Primary Waste Parameter(s)	Other Metals, Other Inorganic Materials (e.g., cement)	
Special Notes	Most of this waste has been identified as RH-TRU and returned to RWMC. 15-gallon drums are potentially sealed containers >4 liters. Information on closure of the 15-gallon drums is not provided. In WTS, the generator area codes IC, IN, and IT are used to identify the generator instead of the generator site code (i.e., IDCs IC-152, IN-152, or IT-152 are used instead of IDC ID-152 in WTS). No IDC change is recommended.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Uncategorized Metal		Debris Waste	S5000
S5000	IN-152	Pu Neutron Sources	
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal		
Waste Information	See IDC ID-152		
Special Notes	Most of this waste has been identified as RH-TRU and returned to RWMC. In WTS, the generator area codes IC, IN, and IT are used to identify the generator instead of the generator site code (i.e., IDCs IC-152, IN-152, or IT-152 are used instead of IDC ID-152 in WTS). No IDC change is recommended.		

Uncategorized Metal		Debris Waste	S5000
S5000	IT-152	Pu Neutron Sources	
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal		
Waste Information	See IDC ID-152		
Special Notes	Most of this waste has been identified as RH-TRU and returned to RWMC. In WTS, the generator area codes IC, IN, and IT are used to identify the generator instead of the generator site code (i.e., IDCs IC-152, IN-152, or IT-152 are used instead of IDC ID-152 in WTS). No IDC change is recommended.		

Heterogeneous Debris Waste		Predominantly Organic Debris	S5000
S5440	ID-153	Combustible Lab Waste	
WIPP Status	WIPP Candidate		
Waste Description	Waste from NRF contains process equipment, containers, and combustible materials. Waste from other facilities has not been described but is assumed to contain similar materials based on assignment of the same content code. ²⁷⁴		
Inner Packaging	One or more drum bags. One drum from NRF includes a Pu-Be source in a 2R container placed in a paraffin-filled (used as a moderator) 30-gallon drum inserted into a 55-gallon drum. Wood was used for bracing and shoring the inner drum against the outer. Other 55-gallon drums from NRF containing neutron sources may have been packaged in a similar manner. ²⁷⁴		
Drum Preparation	The single drum from NRF was unlined. The remaining containers may include a drum liner (e.g., 90-mil high density polyethylene). ²⁷⁴		
Primary Waste Parameter(s)	Other Metals, Cellulosics, Organic Matrix		
Special Notes	Most containers of waste from NRF have been identified as either RH waste or MLLW.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Uncategorized Metal	Unknown/Other Inorganic Debris		S5000
S5190	ID-154	Sample Fuel	
WIPP Status	WIPP Candidate		
Waste Description	Debris waste generated at TRA may include actinide neutron sources, small vials of fuel, and metal containers of fuel capsules. ^{3, 274}		
Inner Packaging	<p>TRA waste packaged in 1974/1975: Waste was placed in the small cavity left when the 55-gallon drum was filled with cement. This waste may be re-classified as a homogenous solids depending upon the results of RTR/VE.</p> <p>TRA waste packaged in 1978/1979: 1-gallon containers placed inside a 55-gallon drum, with lead shot used for shielding around the 1-gallon containers. Diatomaceous earth was added to the drum for support.</p> <p>Other waste: May be double-bagged or may be loosely packaged in the drum bag. Lead shielding may also be present.²⁷⁴</p>		
Drum Preparation	Plastic drum bag. A drum liner may be present. ²⁷⁴		
Primary Waste Parameter(s)	Other Metals, Other Inorganic Materials		
Special Notes	<p>Based on RTR results, waste may contain impenetrable objects.²⁴³</p> <p>In WTS, the generator area code IR is used to identify the generator as TRA. IR-154 is identical to ID-154 and no IDC change is recommended.²⁷⁴</p>		

Uncategorized Metal	Unknown/Other Inorganic Debris		S5000
S5190	IR-154	Sample Fuel	
WIPP Status	WIPP Candidate		
Waste Information	See IDC ID-154		
Special Notes	In WTS, the generator area code IR is used to identify the generator as TRA. IR-154 is identical to ID-154 and no IDC change is recommended.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste	Debris Waste	S5000
S5000	ID-155	TRU Scrap
WIPP Status	WIPP Candidate	
Waste Description	Debris waste generated at TRA may include a plastic glovebox, hydraulic pump, vacuum pumps, centrifuges, tools, and experimental fuel capsules. The plastic glove box was reduced in size as needed to fit the 112 ft ³ plywood box. Debris waste generated at the other facilities is assumed to be similar based on assignment of the same content code. ²⁷⁴	
Inner Packaging	TRA waste packaged in 1975: No packaging around waste. ²⁷⁴ TRA waste packaged in 1979: Waste was packaged into 1-gallon cans. ²⁷⁴ Other containers and generators: Waste may have been packaged in one or more plastic bags sealed with tape. ²⁷⁴	
Drum Preparation	One or more plastic bags, sealed with tape. A drum liner may be present. ²⁷⁴	
Box Preparation	One plastic box liner may be present. ²⁷⁴	
Primary Waste Parameter(s)	Plastic (waste materials), iron-based metals/alloys, other metals	
Special Notes	Based on RTR results, waste may contain mercury, sealed containers > 4 liters (e.g., sealed 2" pipe), or impenetrable objects. ²⁴³ Based on AK, hydraulic pump from TRA may contain oil. ³ In WTS, the generator area code IW is used to identify the generator as RWMC. IW-155 is identical to ID-155 and no IDC change is recommended. ²⁷⁴	

Heterogeneous Debris Waste	Debris Waste	S5000
S5000	IW-155	TRU Scrap
WIPP Status	WIPP Candidate	
Waste Information	See IDC ID-155	
Special Notes	In WTS, the generator area code IW is used to identify the generator as RWMC. IW-155 is identical to ID-155 and no IDC change is recommended.	

Heterogeneous Debris Waste	Debris Waste	S5000
S5000	IC-156	Chem Cell Rip-out
WIPP Status	WIPP Candidate	
Waste Description	Steel piping, vessels, scaffolding, anti-contamination clothing, concrete, and welding slag. ^{3, 274}	
Inner Packaging	None or two layers of plastic. ²⁷⁴	
Box Preparation	Two layers of plastic lining box. Plastic is folded over the waste and taped shut. Diatomaceous earth may have been added on top of the bag before closing. ²⁷⁴	
Primary Waste Parameter(s)	Iron-based metals/alloys, other metals, cellulose, other inorganic material	
Special Notes	Debris waste generated at INTEC by D&D of the C and D chemical cells in CPP-601 and 602.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	IA-157	Miscellaneous Radionuclide Sources	
WIPP Status	WIPP Candidate		
Waste Information	See IDC ID-157		
Special Notes	In WTS, the generator area codes IA, IC, IF, IR, IT, and IW are used to identify specific generators. IDCs IA-157, IC-157, IF-157, IR-157, IT 157, and IW-157 are identical to ID-157 and no IDC change is recommended.		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	IC-157	Miscellaneous Radionuclide Sources	
WIPP Status	WIPP Candidate		
Waste Information	See IDC ID-157		
Special Notes	In WTS, the generator area codes IA, IC, IF, IR, IT, and IW are used to identify specific generators. IDCs IA-157, IC-157, IF-157, IR-157, IT 157, and IW-157 are identical to ID-157 and no IDC change is recommended.		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	ID-157	Miscellaneous Radionuclide Sources	
WIPP Status	WIPP Candidate		
Waste Description	Radionuclide sources (e.g., ²³⁹ Pu, ²⁵² Cf, and ²⁴¹ Am) from calibration units across the INL site. 98, 274		
Inner Packaging	Lead or metal containers (pigs) or wrapped in lead tape. 274		
Drum Preparation	Poly Drum Bag, plastic drum liners may be present. 274 Some drums may have lead shielding.		
Primary Waste Parameter(s)	Iron-based metals/alloys NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Based on RTR results, waste may contain mercury, sharp objects, sealed containers > 4 liters, or impenetrable objects. 243 In WTS, the generator area codes IA, IC, IF, IR, IT, and IW are used to identify specific generators. IDCs IA-157, IC-157, IF-157, IR-157, IT 157, and IW-157 are identical to ID-157 and no IDC change is recommended. 274		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	IF-157	Miscellaneous Radionuclide Sources	
WIPP Status	WIPP Candidate		
Waste Information	See IDC ID-157		
Special Notes	In WTS, the generator area codes IA, IC, IF, IR, IT, and IW are used to identify specific generators. IDCs IA-157, IC-157, IF-157, IR-157, IT 157, and IW-157 are identical to ID-157 and no IDC change is recommended.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	IR-157	Miscellaneous Radionuclide Sources	
WIPP Status	WIPP Candidate		
Waste Information	See IDC ID-157		
Special Notes	In WTS, the generator area codes IA, IC, IF, IR, IT, and IW are used to identify specific generators. IDCs IA-157, IC-157, IF-157, IR-157, IT 157, and IW-157 are identical to ID-157 and no IDC change is recommended.		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	IT-157	Miscellaneous Radionuclide Sources	
WIPP Status	WIPP Candidate		
Waste Information	See IDC ID-157		
Special Notes	In WTS, the generator area codes IA, IC, IF, IR, IT, and IW are used to identify specific generators. IDCs IA-157, IC-157, IF-157, IR-157, IT 157, and IW-157 are identical to ID-157 and no IDC change is recommended.		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	IW-157	Miscellaneous Radionuclide Sources	
WIPP Status	WIPP Candidate		
Waste Information	See IDC ID-157		
Special Notes	In WTS, the generator area codes IA, IC, IF, IR, IT, and IW are used to identify specific generators. IDCs IA-157, IC-157, IF-157, IR-157, IT 157, and IW-157 are identical to ID-157 and no IDC change is recommended.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	AW-160	AL/CL Debris Waste	
WIPP Status	WIPP Candidate		
Waste Description	Debris waste generated in the Building 752 analytical and casting laboratories (AL and CL) at Materials and Fuels Complex (MFC) (formerly known as ANL-W) may include terri-towels, rags, hand tools (wire brushes, metal files, hacksaws, and blades), equipment (grinder motors, scales), thermocouple wire, gloves (neoprene, nitrile, leaded, and leather), graphite crucibles, small aluminum cans containing glass labware, pipette tips, piping, rubber tubing, poly bags, PVC bags, HEPA filters, O-rings, gloveport rings, and nylon gloveport blanks. Waste may also contain <50% by volume inorganic and organic liquids solidified with absorbent (i.e., Aquaset, Petroset, or diatomaceous earth) packaged in small bottles. ^{170, 171}		
Inner Packaging	Prior to 1978, plastic-lined containers After 1977, plastic, glass or metal containers (that may be wrapped in plastic) were placed in lined containers		
Drum Preparation	One or two drum bags Oil-Dri [®] added to top of drum bags		
Primary Waste Parameter(s)	Cellulosics, plastics (waste), iron-based metals/alloys, other inorganic materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	IDC AW-160 was originally assigned to one drum of remote handled-transuranic (RH-TRU) waste from the analytical chemistry and metallography operations in Hot Fuel Examination Facility (HFEF), Building 785. ⁹⁸ This RH-TRU drum is no longer part of the AMWTP inventory. The IDC AW-160 assignment has been reassigned to the waste described above.		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris Waste	S5000
S5490	AW-161	ACL Glassware, Paper, Poly, and Misc.	
WIPP Status	WIPP Candidate		
Waste Description	Debris waste generated during analytical hot-cell analyses in the Analytical Chemistry Laboratory in Building 752 at the ANL-W may include glassware, paper (e.g., tissue, blotting), rags, polyethylene (e.g., sheeting, bottles, beakers), metal hardware (e.g., pump parts, copper tubing, glovebox waste, and unistrut). The waste may also contain <50% by volume aqueous and organic liquids solidified/absorbed on Oil-Dri [®] ^{172, 173}		
Inner Packaging	Prior to 1978, plastic-lined containers After 1977, plastic, glass or metal containers (that may be wrapped in plastic) were placed in lined containers		
Drum Preparation	One or two drum bags Oil-Dri [®] added to top of drum bags		
Primary Waste Parameter(s)	Other inorganic materials, cellulosics, plastics (waste materials), iron-based metals/alloys, other metals (e.g. copper) NOTE: <i>Other debris waste parameters may be present in the waste.</i>		
Special Notes	If >50% by volume homogeneous solids (e.g., absorbent), recommend change to IDC UN-00A.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	AW-162	ANL-W FMF EFL Zr-U-Pu Fuel Cast.	
WIPP Status	WIPP Candidate		
Waste Description	Debris waste generated in the Fuel Manufacturing Facility (FMF) Experimental Fuels Laboratory (EFL) at the ANL-W may include solid zirconium, uranium, and plutonium fuel casting metal alloy wastes. The waste is a solid with small amounts of glass powder from broken glass molds. The waste may also include molds, crucibles, glassware, paper products, plastics, and filter media. The waste may also contain <50% by volume samples absorbed on Oil-Dri [®] . ^{98, 172, 174}		
Inner Packaging	Prior to 1978, plastic-lined containers After 1977, plastic, glass or metal containers (that may be wrapped in plastic) were placed in lined containers		
Drum Preparation	One or two drum bags Oil-Dri [®] added to top of drum bags		
Primary Waste Parameter(s)	Other Metals (e.g., uranium, zirconium), Other Inorganic Materials NOTE: <i>Other debris waste parameters may be present in the waste.</i>		
Special Notes	If >50% by volume homogeneous solids (e.g., absorbent), recommend change to IDC UN-00A.		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	AW-163	ANL-W ACL Cold-Line Ab. Liq. and Debris	
WIPP Status	WIPP Candidate		
Waste Description	Debris waste generated during cold-line sample analysis in the ACL in Building 752 at ANL-W may include hardware (cans, sample containers), glassware, paper (tissue), and polyethylene (bottles, bags, pouches). The waste may also contain <50% by volume liquids absorbed on Oil-Dri [®] . ^{98, 172, 175}		
Inner Packaging	Prior to 1978, plastic-lined containers After 1977, plastic, glass or metal containers (that may be wrapped in plastic) were placed in lined containers		
Drum Preparation	One or two drum bags Oil-Dri [®] added to top of drum bags		
Primary Waste Parameter(s)	Other inorganic materials, iron-based metals/alloys, plastics (waste materials), cellulose NOTE: <i>Other debris waste parameters may be present in the waste.</i>		
Special Notes	If >50% by volume homogeneous solids (e.g., solidified liquids), recommend change to IDC UN-00A.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	AW-164	ANL-W HRA/WCA Debris	
WIPP Status	WIPP Candidate		
Waste Description	Debris waste generated in the Hot Repair Area (HRA) and Waste Characterization Area (WCA) in Building 785 to support various WIPP sampling and characterization activities that supported the WIPP Experimental Test Program (WETP), 3100 m ³ Project, and offsite waste programs may include personal protective equipment (PPE) (Tyvek coveralls, gloves, hoods), cloth rags, terri towels, paper, glass, poly, PVC, rubber, and scrap metal. Waste may also contain <50% by volume brine absorbed on Vermiculite. ^{176, 177, 178}		
Inner Packaging	Prior to 1978, plastic-lined containers After 1977, plastic, glass or metal containers (that may be wrapped in plastic) were placed in lined containers		
Drum Preparation	One or two drum bags Oil-Dri [®] added to top of drum bags		
Primary Waste Parameter(s)	Plastics (waste materials), cellulotics, iron-based metals/alloys, rubber. NOTE: <i>Other debris waste parameters may be present in the waste.</i>		
Special Notes	If >50% by volume homogeneous solids (e.g., solidified liquids or absorbents), recommend change to IDC UN-00A.		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	AW-165	Ash Stabilization and GGE Debris	
WIPP Status	WIPP Candidate		
Waste Description	Debris waste generated during the cleanup and disposal of lab equipment and test containers from ash stabilization and gas generating experiments (GGE) in Building 785 at ANL-W may include test canisters, stainless steel tubing and valves, plastic bagging and sleeving, rubber gloves, rags, and duct tape. Waste may also contain <50% by volume ash solidified with ceramicrete or brine solution absorbed on vermiculite. ¹⁷⁹		
Inner Packaging	Prior to 1978, plastic-lined containers After 1977, plastic, glass or metal containers (that may be wrapped in plastic) were placed in lined containers		
Drum Preparation	One or two drum bags Oil-Dri [®] added to top of drum bags		
Primary Waste Parameter(s)	Iron-based metals/alloys, plastic (waste materials), rubber, cellulotics		
Special Notes	If >50% by volume homogeneous solids (e.g., solidified liquids), recommend change to IDC UN-00A.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	AW-167	MFC CH-TRU Heterogeneous Debris	
WIPP Status	WIPP Candidate		
Waste Description	Debris waste originally generated in the Building 752 AL and in the Building 704 FMF at MFC (formerly known as ANL-W) may include miscellaneous laboratory equipment and hand tools (e.g., press, electric saw, hacksaw and blades, wire brushes, welder controllers, tool boxes, sonic sifter, profilometer, sample cabinet, metal files, grinder motors, poly reservoirs, pumps, thermocouple wire, copper and steel wire, polishing plates [aluminum, steel, stone and glass], scales, feed material transfer cans), labware (beakers, poly bottles, glass, one-pint cans containing crushed glass or combustibles, aluminum and tin foil, sponges, and pipette tips), various sized paint cans (one-pint to one gallon), paper, PVC bags, poly bags and materials, cloth rags, terri towels, gloveport rings, nylon gloveport blanks, O-rings, neoprene gloves, PPE (e.g., Tyvek coveralls, booties, nitrile and leather gloves, leaded gloves and thermal gloves), small aluminum cans containing laboratory glassware, graphite crucibles, HEPA filters with wood and metal frames, pre-filters, filter media and wood, rubber tubing, piping, miscellaneous metal pieces, and asbestos floor tile and insulation. Waste may also contain <50% by volume non-debris (e.g., dissolved fuel samples solidified/absorbed with Aquaset, Petroset, kitty litter or diatomaceous earth) packaged in poly bottles. ^{164, 165}		
Inner Packaging	2 to 3 layers of bags Some waste may be packaged in cans (1-qt to 2-gallon paint cans).		
Drum Preparation	Drum liner		
Primary Waste Parameter(s)	Iron-based metals/alloys, other inorganic materials (e.g., glass), cellulose, plastics (waste) NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	This IDC is assigned to waste received from MFC after 2009 in accordance with AMWTP Profile ID-MFC-S5490. ¹⁶⁵ RTR/VE to verify that waste does not have any supercompactor facility prohibited items (e.g., PCB items, prohibited liquids, pressurized containers). If waste contains any prohibited items, notify AMWTP offsite waste coordinator. Three 55-gal drums of leaded gloves were segregated from MFC RH waste during repackaging in building CPP-659 at INTEC and sent to AMWTP as CH waste with this IDC. If waste is <50% by volume debris, recommend IDC UN-00A or UN-00C and notify the AMWTP offsite waste coordinator.		

Uncategorized Metal		Debris Waste	S5000
S5000	ID-175	DRCT Scrap Metal Waste from TAN	
WIPP Status	WIPP Candidate		
Waste Description	Waste includes, but is not limited to, pieces of metal fuel assembly skeletons, nozzles, and other miscellaneous metal pieces cleaned from the TAN Hot Shop and Hot Cell after completion of the DRCT project. ²⁷⁴		
Inner Packaging	To be determined by RTR/VE. ²⁷⁴		
Drum Preparation	To be determined by RTR/VE. ²⁷⁴		
Primary Waste Parameter(s)	Iron-based Metals/Alloys, Any amount of other debris waste parameters may be present.		
Special Notes	TBD		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics		Unknown/Other Homogeneous Solids	S3000
S3900	SD-176	Pre-1980 INL-Exhumed SDA Homogeneous Solids	
WIPP Status	Potential WIPP Candidate		
Waste Description	This includes homogeneous solids exhumed, generated and/or repackaged during the INL SDA Early Waste Retrieval (EWR) Project and the Initial Drum Retrieval (IDR) Project. The waste includes all loose homogenous solid waste found in boxes, bins, and cargos. Waste may also include <50% by volume debris or soil, either loose or containerized. ^{121, 122, 123, 124}		
Inner Packaging	<i>Not currently summarized</i>		
Drum Configuration	<p>EWR: All exhumed drums were wrapped in at least one layer of plastic.^{121, 122, 123, 124} Exhumed drums were 55-gallon or 30-gallon drums. Leaking drums and breached drums were typically overpacked into 83-gallon drums.^{121, 122} Loose waste (which may include a mix of debris, solids, and soils) was packaged into 55-gallon drums.¹²¹ This waste may also be compacted in the drum. 55-gallon and 85-gallon drums were typically placed in Tri-Wall containers. The exhumed waste was loaded (directly and indirectly) into MIII bins for transport to the TSA.</p> <p>IDR: Exhumed drums were 55-gallon or 30-gallon drums. The exhumed drums were overpacked into 85-gallon drums, MIII bins, or cargo containers and boxes. Breached or contaminated drums were wrapped in plastic and placed in 85-gallon drum or deposited directly into MIII bin over packs. Rigid liners are not expected in any of the EWR and IDR exhumed drums.</p>		
Tri-Wall Configuration	<p>EWR: A plastic liner was placed in each Tri-Wall prior to loading. Damaged (breached) drums and loose waste were placed into plastic bags and packaged in Tri-Wall cardboard boxes.^{123, 124} Tri-Walls may hold up to four 55-gallon drums. Tri-Walls may contain drums, loose waste, or a combination of loose and drummed waste. IDR: Did not use Tri-Walls.</p>		
Box Configuration	<p>EWR: no boxes were used IDR: Two FRP boxes were created to hold ten damaged drums.</p>		
Bin Configuration	<p>EWR: Bins may contain, but are not limited to:</p> <ul style="list-style-type: none"> • eight 55-gallon drums or • six 55-gallon drums and two 83-gallon drums or • two Tri-wall cardboard boxes on a wood pallet^{121, 123, 124} <p>Absorbent (~100 pounds) was routinely spread inside the MIII bins.^{123, 124} IDR: Same as EWR but no Tri-Walls. IDR MIII bins are not expected to contain loose waste.</p>		
Cargos Configuration	<p>See- IDC-RF-998 and RF-999 Loose waste may accumulate in cargos during storage or retrieval activities.</p>		
Primary Waste Parameter(s)	<i>Not currently summarized</i>		
Special Notes	<p>For purposes of characterization of the bins and boxes, RTR can recommend this IDC if the majority of the contents are homogenous solids. The IDC does not include waste that has undergone RTR and is identified as containing suspect roaster oxide (see RF-751). The EWR and IDR homogeneous solid waste is managed as PCB contaminated waste. Homogeneous solids wastes with an unknown generator status that can be verified as pre-1980 INL SDA exhumed wastes may be assigned this IDC. Confirmed RFP salt waste is not included in this IDC. Salt waste may be assigned RF-745.</p>		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	SD-177	Pre-1980 INL-Exhumed SDA Heterogeneous Debris	
WIPP Status	WIPP Candidate		
Waste Description	Waste includes intact containers of >50% by volume miscellaneous heterogeneous debris generated as a result of INL SDA exhumations. This includes debris exhumed, generated and/or repackaged during the EWR Project and the IDR Project. The waste includes all loose debris waste found in boxes, bins, and cargos. Waste may also include <50% by volume homogeneous solids or soil, either loose or containerized. ^{121, 122, 123, 124}		
Inner Packaging	<i>Not currently summarized</i>		
Drum Configuration	<p>EWR: All exhumed drums were wrapped in at least one layer of plastic. ^{121, 122, 123, 124} Exhumed drums were 55-gallon or 30-gallon drums. Leaking drums and breached drums were typically overpacked into 83-gallon drums. ^{121, 122} Loose waste (which may include a mix of debris, solids, and soils) was packaged into 55-gallon drums. ¹²¹ This waste may also be compacted in the drum. The exhumed waste was loaded (directly and indirectly) into MIII bins for transport to the TSA.</p> <p>IDR: Exhumed drums were 55-gallon or 30-gallon drums. The exhumed drums were overpacked into 85-gallon drums, MIII bins, cargo containers or boxes. Breached or contaminated drums were wrapped in plastic and placed in 85-gallon drum or deposited directly into MIII bin over packs. Rigid liners are not expected in any of the exhumed drums.</p>		
Tri-Wall Configuration	<p>EWR: A plastic liner was placed in each Tri-Wall prior to loading. Damaged (breached) drums and loose waste were placed into plastic bags and packaged in Tri-Wall cardboard boxes. ^{123, 124} Tri-Walls may hold up to four 55-gallon drums. Tri-Walls may contain drums, loose waste, or a combination of loose and drummed waste.</p> <p>IDR: Did not use Tri-Walls.</p>		
Bin Configuration	<p>EWR: Bins may contain, but are not limited to:</p> <ul style="list-style-type: none"> • eight 55-gallon drums or • six 55-gallon drums and two 83-gallon drums or • two Tri-wall cardboard boxes on a wood pallet ^{121, 123, 124} <p>IDR: Same as EWR but no Tri-Walls.</p> <ul style="list-style-type: none"> • IDR MIII bins are not expected to contain loose waste. <p>Absorbent (~100 pounds) was routinely spread inside the MIII bins. ^{123, 124}</p>		
Cargos Configuration	<p>See- IDC-RF-998 and RF-999 Loose waste may accumulate in cargos during storage or retrieval activities.</p>		
Primary Waste Parameter(s)	<i>Not currently summarized</i>		
Special Notes	<p>For purposes of characterization of the bins and boxes, RTR can recommend this IDC if the majority of the contents are heterogeneous debris. Based on RTR results, waste may contain sealed containers >4 liters or impenetrable objects. ²⁴³ Debris wastes associated with an unknown generator status that can be verified as pre-1980 INL SDA exhumed wastes may be assigned this IDC. The IDC does not include waste that has undergone RTR and is identified as containing suspect roaster oxide (See RF-751). If the waste is in known contact with sludge or soil or containers of sludge or soil are identified, then NCR container for PCBs.</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Soils	Soil	S4000
S4200	SD-178	Pre-1980 INL-Exhumed SDA Soil
WIPP Status	Potential WIPP Candidate	
Waste Description	This waste includes soils exhumed, generated and/or repackaged during the EWR Project and the IDR Project. The exhumed waste includes all loose soil waste found in boxes, bins and cargos. Waste may also include <50% by volume debris or homogeneous solids, either loose or containerized. ^{121, 122, 123, 124}	
Inner Packaging	<i>Not currently summarized</i>	
Drum Configuration	<p>EWR: All exhumed drums were wrapped in at least one layer of plastic. ^{121, 122, 123, 124} Exhumed drums were 55-gallon or 30-gallon drums. Leaking drums retrieved in 1976 and breached drums exhumed in 1978 were typically overpacked into 83-gallon drums. ^{121, 122} Loose waste (which may include a mix of debris, solids, and soils) was packaged into 55-gallon drums. ¹²¹ This waste may also be compacted in the drum. 55-gallon and 85-gallon drums were typically placed in Tri-Wall containers but may be directly or indirectly loaded in an MIII bin for transport to the TSA.</p> <p>IDR: Exhumed drums were 55-gallon or 30-gallon drums. Breached or contaminated drums were wrapped in plastic and placed in 85-gallon drum or deposited directly into MIII bin over packs. All drums were overpacked into 85-gallon drums, MIII bins, or cargo containers. Rigid liners are not expected in any of the exhumed drums.</p>	
Tri-Wall Configuration	<p>EWR: A plastic liner was placed in each Tri-Wall prior to loading. Damaged (breached) drums and loose waste were placed into plastic bags and packaged in Tri-Wall cardboard boxes. ^{123, 124} Tri-Walls may hold up to four 55-gallon drums. Tri-Walls may contain drums, loose waste, or a combination of loose and drummed waste. IDR: Did not use Tri-Walls.</p>	
Bin Configuration	<p>EWR: Bins may contain, but are not limited to:</p> <ul style="list-style-type: none"> • eight 55-gallon drums or • six 55-gallon drums and two 83-gallon drums or • two Tri-wall cardboard boxes on a wood pallet ^{121, 123, 124} <p>IDR: Same as EWR but no Tri-Walls.</p> <ul style="list-style-type: none"> • IDR MIII bins are not expected to contain loose waste. <p>Absorbent (~100 pounds) was routinely spread inside the MIII bins. ^{123, 124}</p>	
Cargos Configuration	<p>See- IDC-RF-998 and RF-999 Loose waste may accumulate in cargos during storage or retrieval activities.</p>	
Primary Waste Parameter(s)	<i>Not currently summarized</i>	
Special Notes	<p>For purposes of characterization of the bins, RTR can recommend this IDC if the majority of the contents are soils.</p> <p>Soil wastes associated with an unknown generator status that can be verified as pre-1980 INL SDA exhumed wastes may be assigned this IDC. The IDC does not include waste that has undergone RTR and is identified as containing suspect roaster oxide (See RF-751).</p> <p>Soils from the EWR project may contain a soil binder (Turco Lab 1368-33-1) or asphalt that was applied in 1974-1976 at the time the soil was retrieved from the pits and trenches. ^{121, 122}</p> <p>The EWR and IDR soil waste is managed as PCB contaminated waste.</p>	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	IW-179	Pre-1980 SDA Waste Retrieval Bins
WIPP Status	N/A – Overpack Container	
Waste Description	See IDC SD-179. This IDC is superseded by SD-179.	
Bin Configuration	See IDC SD-179.	
Primary Waste Parameter(s)	N/A – overpack container. See IDC SD-179.	
Special Notes	See SD-179.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	SD-179	Pre-1980 INL-Exhumed SDA Waste Retrieval Containers
WIPP Status	N/A – Retrieved Container	
Waste Description	IDC SD-179 is not to be used for characterizing waste. (see Special Notes). This IDC includes all waste exhumed, generated, and/or repackaged during the Early Waste Retrieval (EWR) Project and placed into MIII bins and during the Initial Drum Retrieval (IDR) Project packaged into 85-gallon drums, FRP boxes, MIII bins and cargos whose primary waste form is unknown at the time of TSA retrieval. The waste includes all waste previously identified as IW-179. The waste includes any combination of inner containers associated with IDCs SD-176 through SD-178. ^{121, 122, 123, 124}	
Drum Configuration	<p>EWR: All exhumed drums were wrapped in at least one layer of plastic. ^{121, 122, 123, 124} Exhumed drums were 55-gallon or 30-gallon drums. Leaking drums and breached drums were typically overpacked into 83-gallon drums. ^{121, 122} Loose waste (which may include a mix of debris, solids, and soils) was packaged into 55-gallon drums. ¹²¹This waste may also be compacted in the drum. 55-gallon and 85-gallon drums were typically placed in Tri-Wall containers but may be direct loaded in an MIII bin.</p> <p>IDR: Exhumed drums were 55-gallon or 30-gallon drums. Breached or contaminated drums were wrapped in plastic and placed directly into 85-gallon drum or MIII bin over packs. All drums were overpacked into either 85-gallon drums, FRPs, MIII bins, or cargo containers. Rigid liners are not expected in any of the exhumed drums.</p>	
Tri-Wall Configuration	<p>EWR: A plastic liner was placed in each Tri-Wall prior to loading. Damaged (breached) drums and loose waste were placed into plastic bags and packaged in Tri-Wall cardboard boxes. ^{123, 124} Tri-Walls may hold up to four 55-gallon drums. Tri-Walls may contain drums, loose waste, or a combination of loose and drummed waste.</p> <p>IDR: Did not use Tri-Walls.</p>	
Bin Configuration	<p>EWR: Bins may contain, but are not limited to:</p> <ul style="list-style-type: none"> • eight 55-gallon drums or • six 55-gallon drums and two 83-gallon drums or • two Tri-Wall cardboard boxes on a wood pallet ^{121, 123, 124} <p>IDR: Same as EWR but no Tri-Walls.</p> <ul style="list-style-type: none"> • IDR MIII bins are not expected to contain loose waste. <p>Absorbent (~100 pounds) was routinely spread inside the MIII bins. ^{123, 124}</p>	
Cargos Configuration	See- IDCs: RF-751 and RF-999 for containers with suspect roaster oxide. Loose waste may accumulate in cargos during storage or retrieval activities.	
Primary Waste Parameter(s)	N/A – Retrieved container	
Special Notes	<p>IDC SD-179 is reserved to track containers packaged with waste exhumed from the pits and trenches and is not to be used to characterize the waste. If containers are examined by RTR, then recommend an IDC based on the majority of the waste contained in the container (reference IDCs SD-176, SD-177, and SD-178). The IDC does not include waste that has undergone RTR and is identified as containing suspect roaster oxide (See RF-751).</p> <p>Some of the exhumed bins are labeled “may contain ordnance;” however, no ordnance has been identified within bins examined to date.</p> <p>The contents of the eight drums labeled “Cluster Fragmentation Bomb” exhumed from Trench 5 were inspected to ensure that no drums containing cluster fragmentation bombs were moved to TSA-RE. The drums that contained only innocuous debris were moved to TSA-RE (the exact number of drums is unknown) but are still labeled “Cluster Fragmentation Bomb.” ^{121, 128}</p>	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

N/A	N/A	N/A
N/A	BN-180	Pad 1 Cells 1 and 2 Waste Retrieval Containers
WIPP Status	N/A – Retrieved Container	
Waste Description	IDC BN-180 is not to be used for characterizing waste (see Special Notes). Waste includes intact containers and repackaged containers of waste historically stored within Cells 1 and 2 of Pad 1 with insufficient AK information to assign a legacy IDC. Waste may contain any type of waste.	
Inner Packaging	Waste may be double or triple bagged in small poly bags, or waste may be direct loaded into the waste drum	
Drum Preparation	Up to two Poly Drum Bags	
Primary Waste Parameter(s)	N/A – Retrieved container	
Special Notes	IDC BN-180 is reserved to track containers packaged with waste retrieved from Cells 1 and 2 of Pad 1 and is not to be used to characterize the waste. If containers are examined by RTR, then recommend an IDC based on the majority of the waste contained in the container (reference IDCs BN-511, BN-522 and BN-524).	

Heterogeneous Debris Waste	Unknown/Other Heterogeneous Debris	S5000
S5490	BC-201	Non-combustible Solids
WIPP Status	WIPP Candidate	
Waste Description	Various non-combustible debris wastes from decontamination and decommissioning (D&D) activities including tools, crucibles, piping, valves, pieces of equipment, lead bricks, Plexiglas, and filters. Waste may also contain any amount of combustible debris waste such as cellulose and plastic bagging.	
Inner Packaging	1-gallon cardboard cartons / Poly bag (triple-bagged)	
Drum Preparation	Rigid Liner / Poly Drum Bag / Poly or O-Ring bag	
Bin Preparation	Non-removable plywood liners Bins may contain drums or triple-bagged waste, ²⁶¹	
Primary Waste Parameter(s)	Plastic (waste materials), other inorganic materials, iron-based metals/alloys, other metals (e.g., lead) NOTE: <i>Any amount of other debris waste parameters may be present.</i>	
Special Notes	Based on RTR results, waste may contain light ballasts (which may contain PCBs), compressed gas canisters, sealed containers >4 liters (e.g., 5-gallon metal cans), prohibited liquids, or impenetrable objects. ²⁴³ Liquid metal (i.e., mercury) wastes were sealed in polyethylene bottles, the bottles placed in a 1/2- or 1-gallon metal paint can, the can void space filled with vermiculite or plaster of Paris, and then sealed. ²⁷²	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BC-202	Combustible Solids–Paper/Cloth	
WIPP Status	WIPP Candidate		
Waste Description	Cloth, paper, and wood products, primarily such as wipes, towels, rags, coveralls, booties, HEPA filter frames, plastic suits, plastic tent structures, rubber gloves, and air hose. Plastic and cellulose are usually in the same drum.		
Inner Packaging	O-Ring bag / Poly bag / Poly bag, or Poly bag / Poly bag / Poly bag		
Drum Preparation	Rigid Liner / Poly Drum Bag / Poly Drum Bag Rigid Liner / Poly Drum Bag / O-Ring bag		
Primary Waste Parameter(s)	Cellulosics, plastic (waste materials), rubber NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Bin Preparation	Non-removable plywood liners Bins may contain drums or triple-bagged waste ²⁶¹		
Special Notes	Based on RTR results, waste may contain aerosol cans or prohibited liquids. ²⁴³ Liquid metal (i.e., mercury) wastes were sealed in polyethylene bottles, the bottles placed in a half- or 1-gallon metal paint can, the can void space filled with vermiculite or plaster of Paris, and then sealed. ²⁷²		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BC-203	Paper, Cloth, Metal, Glass	
WIPP Status	WIPP Candidate, Managed as PCB contaminated		
Waste Description	Cloth, paper, and wood products, primarily such as wipes, towels, rags, coveralls, booties, HEPA filter frames, miscellaneous metals, glass from D&D work, and gallon paint cans. Plastic and cellulose are usually in the same drum.		
Inner Packaging	O-Ring bag / Poly bag / Poly bag, or Poly bag / Poly bag / Poly bag		
Drum Preparation	Rigid Liner / Poly Drum Bag / Poly Drum Bag Rigid Liner / Poly Drum Bag / O-Ring bag		
Bin Preparation	Non-removable plywood liners Bins may contain drums or triple-bagged waste ²⁶¹		
Primary Waste Parameter(s)	Cellulosics, other metals (e.g., lead), iron-based metals/alloys, other inorganic materials (e.g., glass), plastics (waste)		
Special Notes	Oils removed from equipment may be contaminated with PCBs. These oils were absorbed in Oil-Dri in 1-gallon metal cans, and the cans were placed in waste containers. An estimated twenty 1-gallon cans were placed in IDC BC 203 waste containers. PCB waste with any observable liquid is prohibited from disposal at WIPP. Do not recommend an IDC change to BC-202. Managed as PCB contaminated waste. ¹ Liquid treatment not authorized for this IDC. Liquid metal (i.e., mercury) wastes were sealed in polyethylene bottles, the bottles placed in a 1/2- or 1-gallon metal paint can, the can void space filled with vermiculite or plaster of Paris, and then sealed. ²⁷²		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Solidified Homogeneous Solids	S3000
S3150	BC-204	Solidified Solutions	
WIPP Status	WIPP Candidate		
Waste Description	Solidified solutions from washing gloveboxes. Approximately 30 gallons of water with Turco soap was mixed with 250 pounds of plaster of Paris and allowed to cure in the drum. ³		
Inner Packaging	Direct loaded into the waste drum Approximately 5 pounds of plaster of Paris were added on top of waste.		
Drum Preparation	Rigid Liner / Poly drum bag A second poly drum bag may be present.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	Based on RTR results, waste may contain prohibited liquids. ²⁴³		

Solidified Inorganics ¹²⁶		Unknown/Other Homogeneous Solids	S3000
S3900	NT-210	NTS Berkeley Solidified Liquids	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{126, 134, 154}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	NT-211	NTS Lawrence Berkeley Heterogeneous Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{126, 135, 154}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Solidified Inorganics and Solidified Organics		Unknown/Other Homogeneous Solids	S3000
S3900	LL-212	LLNL Solidified Liquids and Sludge	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{166, 167, 200}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics ¹³⁶		Unknown/Other Homogeneous Solids	S3000
S3900	NT-212	NTS LLNL Solidified Sludge and Liquids	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{127, 130, 136, 137}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	LL-213	LLNL Heterogeneous Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{166, 168, 200}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	NT-213	NTS LLNL Heterogeneous Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{127, 130, 138}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	NT-214	NTS Lynchburg Heterogeneous Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{129, 139, 155}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	NT-215	NTS EG&G Heterogeneous Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{140, 141, 157}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Heterogeneous Debris	S3000
S3900	CW-216	Sludge Repackage Project PCB Contaminated Inorganic Sludge	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{280, 281}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	NT-216	NTS Roller Coaster Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{142, 143, 158}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	NT-217	NTS RF Decon Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{144, 145, 156}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	NT-218	NTS Livermore and Berkeley Combined Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{146, 147, 159}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator		

Combustible Waste		Plastic/Rubber Debris	S5000
S5310	NT-219	NTS ITRI Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{148, 149, 160}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	NT-220	NTS Decon and Maintenance Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{150, 151, 161}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Salt Waste		Chloride Salts	S3000
S3141	LL-221	LLNL Pyrochemical Salt Waste	
WIPP Status	WIPP Candidate - Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{166, 169, 200}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Heterogeneous Debris		Heterogeneous Debris	S5000
S5400	GV-222	GE VNC Hot Cell Debris Waste	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{162, 163, 202}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Heterogeneous Debris		Heterogeneous Debris	S5000
S5400	SL-223	SNL LRRH Heterogeneous Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{203, 204, 205}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Heterogeneous Debris		Heterogeneous Debris	S5000
S5400	SL-224	SNL HFC Heterogeneous Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{206, 207, 208}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris		Heterogeneous Debris		S5000
S5400	AW-225	EFL Lead Gloves		
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP			
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ²⁰⁹			
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.			

Heterogeneous Debris		Heterogeneous Debris		S5000
S5400	SL-227	Sandia Sources		
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP			
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{210, 211, 244}			
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.			

Heterogeneous Debris		Heterogeneous Debris		S5000
S5400	ND-228	NRD Mixed Heterogeneous Debris		
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP			
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{237, 238, 245}			
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.			

Heterogeneous Debris		Heterogeneous Debris		S5000
S5400	LB-229	LBNL Mixed Heterogeneous Debris		
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP			
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{239, 240, 246}			
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.			

Heterogeneous Debris		Heterogeneous Debris		S5000
S5400	AE-230	Argonne CH Debris		
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP			
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, and primary waste material parameters. ^{222, 247}			
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490⁹⁶	RF-241	Americium Process Residue	
WIPP Status	WIPP Candidate		
Waste Description	Metal, glass, combustibles, plastic, and other miscellaneous debris wastes. Waste was generated in the cleanup and decommission of the americium recovery line. Other debris waste includes filters, leaded glovebox gloves, rags and wipes.		
Inner Packaging	O-Ring bag and/or Poly bag sealed and placed in Fiberpaks, 30-gallon drum or placed directly in 55-gallon drum. Shielding was provided by lead taping the Fiberpaks, lead lining (1/16- to 1/8-inch) the 30 or 55-gallon drums, or a combination of lead shielding. Some drums may have no shielding.		
Drum Preparation	Lead Shielding (see above)/ Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag		
Primary Waste Parameter(s)	Other inorganic materials, other metals (e.g., lead), cellulose, plastic (waste materials), rubber, iron-based metals/alloys		
Special Notes	Based on RTR results, waste may contain prohibited liquids, sealed containers > 4 liters, sharp objects, impenetrable objects, or impenetrable lead shielding. ²⁴³ Some drums may contain homogeneous solids packaged in metal paint cans. If >50% by volume homogeneous solids, recommend an IDC change to UN-00A and an AK evaluation will be performed. ¹²⁵		

Soils		Soils	S4000
S4200	LA-250	Contaminated Soil from TA-21 DP West Facility	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{266, 269}		
Special Notes	If waste is <50% by volume soils or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Soils		Soil	S4000
S4100	OR-250	OR-NFS-CH-Soil	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{212, 213}		
Special Notes	If waste is <50% by volume soil or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Solidified Inorganics		Solidified Homogeneous Solids	S3000
S3150	SR-251	SRS Barnwell Solidified Inorganic Waste	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{214, 215}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Inorganic Particulates	S3000
S3110	SR-252	SRS F-Canyon and FB-Line Absorbed Wastes	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{216, 217}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Solidified Inorganics		Inorganic Particulates	S3000
S3110	SR-253	SRS Mound Site Inorganic Particulates	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{218, 219}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Solidified Inorganics		Inorganic Particulates	S3000
S3110	AE-254	Argonne CH Homogeneous Solids	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, and primary waste material parameters. ^{221, 222}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Solidified Inorganics		Inorganic Homogeneous Solids	S3000
S3100	SR-255	SRS Inorganic Sludge from 235F	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{201, 249, 266, 269}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Inorganic Particulates	S3000
S3110	SR-256	SRS Inorganic Particulates from 221H	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{264, 266, 269}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Solidified Inorganics		Inorganic Particulates	S3000
S3110	SR-257	SRS Solidified Inorganics from 773A	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{266, 269}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Solidified Organics		Organic Sludges	S3000
S3220	SR-258	SRS Solidified Organics from 211F	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{267, 270}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Solidified Inorganics		Inorganic Sludges	S3000
S3120	SR-259	SRS Solidified Inorganics from 211F	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{268, 270}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Solidified Organics		Organic Sludges	S3000
S3114	SR-260	SRS Solidified Organics from 321M	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{260, 268, 270, 277}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics		Organic Absorbents	S3000
S3212	SR-261	BCLDP absorbed hydraulic sludge from JN-1	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{268, 270, 278, 279}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Solidified Inorganics		Off-Gas Treatment Sludges	S3000
S3123	RF-290	Filter Sludge	
WIPP Status	WIPP Candidate		
Waste Description	Sludge is from the incinerator off-gas system or from filter plenums during a filter change, may also be from pumps		
Inner Packaging	Packaged in 1-quart ice cream cartons (plastic containers)/ Small Poly bag(s)/ 8802 Vollrath Stainless Can		
Drum Preparation	Rigid Liner (after1971) / Poly drum bag / Poly drum bag		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	<p>There may be free liquids in the ice cream cartons. Based on RTR results, waste may contain prohibited liquids. ²⁴³</p> <p>After 1974, sludge from incinerator off-gas system or from plenums with cement added to absorb liquids was identified as IDC RF-292. ⁴⁴</p> <p>Per available shipping records, IDC RF-290 was not shipped to INL after 1971. ^{97, 152}</p>		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Inorganics		Solidified Homogeneous Solids		S3000
S3150	RF-292	Cemented Sludge		
WIPP Status	WIPP Candidate			
Waste Description	Incinerator sludge generated from the scrubber system. The sludge is a combination of fly ash and diatomaceous filter media. Portland cement was added as an absorbent for liquids in the sludge. Waste may also contain <50% by volume plastic debris items (e.g., filters).			
Inner Packaging	Prior to 1977 PVC bag / Small Poly bag / Small Poly bag / 1-gallon metal paint can with cement to absorb free liquids. After 1977 the sludge was placed in 2-L to 1-gallon poly bottles / small poly bag/ small poly bag.			
Drum Preparation	Rigid Liner / Poly drum bag / Poly drum bag			
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.			
Primary Waste Parameter(s)	Inorganic Matrix			
Special Notes	There may be free liquids in the poly bottles. Based on RTR results, waste may also contain prohibited liquids in the drum bag. Waste may also contain sealed containers >4 liters (e.g., clamshells) or sharp objects. ²⁴³ VE results show some sludge may be packaged directly into metal cans and the metal cans then packaged into small bags. A cement plug (Other Inorganic Materials) may be present on the top of the bottle. Prior to 1974, cement was not added to the sludge and the sludge was identified as RF-290. ⁴⁴			

Graphite		Graphite Debris		S5000
S5126	RF-300	Graphite Molds		
WIPP Status	WIPP Candidate – Drums may also be characterized by CCP			
Waste Description	Graphite molds from Pu casting operations. The molds may be broken or whole. Pieces include spacers, electrodes, ingot molds, and graphite pieces from research. Waste may also contain <50% by volume cellulosic, plastic, rubber, glass, and metal materials (e.g., paper, cardboard, elastic bands, tubing, surgeon's gloves, thermocouples, bolts, tools).			
Inner Packaging	Poly bottle / O-Ring bag / Poly bag O-Ring bag / Poly bag O-ring bags are lined with a fiberboard liner and may include a fiberboard disc. Some drums may include graphite packaged in Kraft Tubes ^{61, 91}			
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Rigid Liner (after 1971) / Poly Drum Bag / O-Ring bag			
Primary Waste Parameter(s)	Other Inorganic Materials			
Special Notes	Based on RTR results, waste may contain prohibited liquids, sealed containers >4 liters, (including metal cans and 30-gallon drums) or sharp objects. ²⁴³ O-ring bags in the middle of the waste may be breached. An IDC change to RF-301, RF-303, RF-310 or RF-312 is not recommended, because these are all graphite debris waste also assigned to WSPF ID-RF-S5126.			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Graphite	Graphite Debris		S5000
S5126	RF-301	Graphite Cores	
WIPP Status	WIPP Candidate – Drums may also be characterized by CCP		
Waste Description	Graphite cores from Pu casting operations. The molds should be broken. Waste may include graphite electrodes and graphite pieces from research. Waste may also contain <50% by volume cellulosic, plastic, rubber, and metal debris items.		
Inner Packaging	Poly bottle / O-Ring bag / Poly bag O-Ring bag / Poly bag O-ring bags are lined with a fiberboard liner and may include a fiberboard disc.		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Rigid Liner (after 1971) / Poly Drum Bag / O-Ring bag		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	O-ring bags in the middle of the waste may be breached. An IDC change to RF-300, RF-303, RF-310 or RF-312 is not recommended because these are all graphite debris waste also assigned to WSPF ID-RF-S5126.		

Combustibles	Organic Debris		S5000
S5300⁸⁹	RF-302	Benelex and Plexiglas	
WIPP Status	WIPP Candidate		
Waste Description	Benelex is a densely laminated wood product. It was usually coated with fire retardant paint. Benelex may also have lead shielding attached. Benelex came in 2-inch thick sheets. Plexiglas is a plastic sheeting 1/8 inch to 4-inch thick. Waste may also contain cellulosic or rubber (e.g., paper, rubber window gaskets, surgeon's gloves, and wipes), but may only contain <50% by volume metal debris items (e.g., leaded glass, angle iron, and metal hardware).		
Inner Packaging	Poly bag / Poly bag Waste may be placed directly into waste drum or box.		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag/ Poly Drum Bag A cardboard liner may be present in some drums.		
Box Preparation	Poly Box Bag / Cardboard Box Liner		
Primary Waste Parameter(s)	Cellulosics (e.g., Benelex), plastic (waste material; e.g., Plexiglas), other metal (e.g., lead shielding)		
Special Notes	Based on RTR results, waste may contain sharp objects. ²⁴³ Benelex is a Cellulosic material and may have lead shielding attached and some of the hinges and handles may still be attached. The lead shielding was usually bolted to the Benelex so look for the bolts and nuts. Waste boxes generated during 1973 to 1974 may contain larger pieces of Benelex shielding on iron angle frames that were generated as part of the fire cleanup activities. IDC RF-302 replaced IDC RF-464 in late 1972.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Graphite	Graphite Debris		S5000
S5126	RF-303	Scarfed Graphite Chunks	
WIPP Status	WIPP Candidate – Drums may also be characterized by CCP		
Waste Description	Waste consists of pieces of broken graphite molds generated from the mechanical cleaning (scarfing) of graphite molds and cores. Waste may also contain <50% by volume plastic and metal debris items.		
Inner Packaging	Poly bottle / O-Ring bag / Poly bag O-Ring bag / Poly bag Fiberpak/O-ring bag / Poly bag O-ring bags are lined with a fiberboard liner and may include a fiberboard disc.		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum bag / Poly Drum bag Rigid Liner (after 1971) / Poly Drum bag / O-Ring bag		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	O-ring bags in the middle of the waste may be breached. An IDC change to RF-300, RF-301, RF-310 or RF-312 is not recommended because these are all graphite debris waste also assigned to WSPF ID-RF-S5126.		

Graphite	Graphite Debris		S5000
S5126⁸	RF-310	Graphite Scarfings	
WIPP Status	WIPP Candidate – Drums may also be characterized by CCP		
Waste Description	Graphite fines and small pieces generated mechanically during the removal of Pu from the molds.		
Inner Packaging	1-gallon Poly bottle / O-Ring bag / Small Poly bag		
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / Poly drum bag 1 to 2 quarts Oil-Dri [®] or vermiculite in bottom of outer drum bag.		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Based on RTR results, waste may contain sharp objects. ²⁴³ An IDC change to RF-300, RF-301, RF-303 or RF-312 is not recommended because these are all graphite debris waste also assigned to WSPF ID-RF-S5126.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Inorganics	Unknown Other Inorganic Particulates		S3000
S3119	RF-311	Graphite Heels	
WIPP Status	WIPP Candidate		
Waste Description	Heel remaining after graphite scarfings were dissolved in nitric acid to recover the Pu. The graphite heel was collected on an R-6 filter pad and dried.		
Inner Packaging	1-gallon Poly bottle / Small PVC bag / Small Poly bag		
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / Poly drum bag 1 to 2 quarts Oil-Dri [®] or vermiculite on top of outer drum bag.		
Box Preparation	Poly Box Liner / Cardboard Box Liner		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Box may contain graphite molds and other foundry supplies generated during cleanup operations after the 1969 fire. If >50% by volume debris, recommend an IDC change.		

Graphite	Graphite Debris		S5000
S5126	RF-312	Coarse Graphite	
WIPP Status	WIPP Candidate – Drums may also be characterized by CCP		
Waste Description	Scarfed graphite pieces and broken graphite molds from Pu casting operations. Pieces include spacers, electrodes, ingot molds, and graphite pieces from research. The graphite was scarfed to remove the source metal for recovery. Waste may also contain <50% by volume plastic and metal debris items.		
Inner Packaging	Poly bottle / O-Ring bag / Poly bag O-Ring bag / Poly bag O-ring bags are lined with a fiberboard liner and may include a fiberboard disc. Fiberpak / O-ring bag / Poly bag		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Rigid Liner (after 1971) / Poly Drum Bag / O-Ring bag		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	O-ring bags in the middle of the waste may be breached. Insufficiently destroyed shapes may be classified waste. An IDC change to RF-300, RF-301, RF-303, or RF-310 is not recommended because these are all graphite debris waste also assigned to WSPF ID-RF-S5126.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Uncategorized Metal		Metal Debris with Lead	S5000
S5112	RF-320	Heavy Non-special Source Metal	
WIPP Status	WIPP Candidate		
Waste Description	Heavy non-special source metals are metals above copper on the Periodic Table and include tantalum, tungsten, platinum, depleted uranium, lead bricks/tape/sheeting. Waste consists primarily of tantalum crucibles, funnels, funnel inserts, and pour-rods. Waste may also contain <50% by volume plastic waste.		
Inner Packaging	Poly bag / Poly bag or O-Ring bag / Poly bag Waste may be in Fiberpaks.		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Drums may be lead lined.		
Box Preparation	Poly Box Liner / Cardboard Box Liner		
Primary Waste Parameter(s)	Other metals (e.g., lead, tantalum, tungsten, platinum), iron-based metals/alloys		
Special Notes	Based on RTR results, waste may contain light ballasts or transformers (which may contain PCBs), compressed gases (including aerosol cans), mercury, prohibited liquids, sealed containers >4 liters, impenetrable objects/waste. Based on VE results, waste may also contain sharp objects. ²⁴³ Depleted uranium is very dense like lead. Do not recommend an IDC change to RF-321, RF-480, or RF-481, because these are all metal waste also assigned to WSPF BN296.		

Uncategorized Metal		Metal Debris with Lead	S5000
S5112	RF-321	Lead	
WIPP Status	WIPP Candidate		
Waste Description	Lead waste in the form of lead bricks, shielding, glovebox port covers. Waste may also contain lead-acid batteries.		
Inner Packaging	Poly bag / Poly bag O-Ring bag / Poly bag		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag		
Primary Waste Parameter(s)	Other metals (e.g., lead), iron-based metals/alloys		
Special Notes	Based on RTR results, waste may contain sharp objects. ²⁴³ An IDC change to RF-320, RF-480, or RF-481 is not recommended, because these are all metal waste also assigned to WSPF BN296.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Filters	Composite Filters	S5000
S5410	RF-328	Ful-Flo Incinerator Filters
WIPP Status	WIPP Candidate	
Waste Description	Filters including hollow cylindrical filters 10 inch × 3-½ inch diameter made of fibrous resin material or In-Line liquid filters made of polypropylene.	
Inner Packaging	O-Ring bag / Poly bag / Clamshell Some filters may be packaged in poly bottles.	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag	
Primary Waste Parameter(s)	Plastic (waste materials)	
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids. ²⁴³</p> <p>The fibrous resin Ful-Flo filters can be distinguished from the polypropylene wound Ful-Flo filters. The fibrous resin filters have a cross weave pattern of ¼-inch deep grooves that circle the filter along its length. Grooves look much like they were cut by a lathe. Waste may have free liquids. Clamshells are sealed container >4 liters if closed. Liquids may be present in the bagging materials.</p> <p>An IDC change to RF-335, RF-338, RF-360, RF-376, or RF-490 is not recommended because these are all filter/insulation waste also assigned to WSPF BN211.</p>	

Combustibles	Organic Debris	S5000
S5300⁸⁹	RF-33A	WETP Bin Program – Combustibles A
WIPP Status	WIPP Candidate	
Waste Description	WETP Bin Program – Combustibles A (IDCs RF-335, RF-336, RF-337 and, RF-339)	
Inner Packaging	Bagged waste was removed from IDC RF-336, RF-337, and RF-339 drums for VE. Bags were breached for VE. After VE, waste was placed directly into bins.	
Bin Preparation	Wire mesh was placed in the bins (possibly on top and under the waste). Bins were then overpacked in SWBs.	
Primary Waste Parameter(s)	Cellulosics, plastic (waste materials), rubber	
Special Notes	Bins may contain 8 × 8 inch glovebox filters (IDC RF-335) consisting of glass and polyamide filter media. (Other inorganic materials)	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Combustibles	Organic Debris	S5000
S5300⁸⁹	RF-33B	WETP Bin Program – Combustibles B
WIPP Status	WIPP Candidate	
Waste Description	WETP Bin Program – Combustibles B (IDCs RF-330, RF-337 and, RF-339)	
Inner Packaging	Bagged waste was removed from IDC RF-330, RF-337, and RF-339 drums for VE. Bags breached for VE. After VE, waste was placed directly into bins.	
Bin Preparation	Wire mesh was placed in the bins (possibly on top and under the waste). Bins were then overpacked in SWBs.	
Primary Waste Parameter(s)	Cellulosics, rubber, plastic (waste materials), rubber	
Special Notes		

Combustibles	Organic Debris	S5000
S5300⁸⁹	RF-330	Paper and Rags-Dry
WIPP Status	WIPP Candidate – Drums may also be characterized by CCP	
Waste Description	Cloth, paper, and wood products including items such as wipes, towels, rags, coveralls, booties, gloves, HEPA filter frames, and lumber. Waste was packaged as a dry waste. Waste may also contain any amount of plastic, and rubber but may only contain <50% by volume metal and other inorganic material debris items (e.g., concrete, cement, leaded-glovebox gloves, surgeon’s gloves, lead tape, and glass and metal items such as raschig rings, nails, cans, vials, bottles, lead sheeting, bolts, pipe, welding rods, batteries, tools, and wire). Absorbent may have been added to waste.	
Inner Packaging	O-Ring bag / Poly bag or Poly bag / Poly bag Waste in boxes may be contained in 1 to 4 layers of plastic, with outer bag punctured.	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag/ Poly Drum Bag or O-Ring bag Drums may be lead-lined (waste from americium recovery line).	
Box Preparation	Poly Box Bag/ Cardboard Box Liner Up to 100 pounds of absorbent may have been added to box during packaging.	
Primary Waste Parameter(s)	Cellulosics, plastic (waste materials), rubber	
Special Notes	Based on RTR results, waste may contain light ballasts or transformers (which may contain PCBs), compressed gases (including aerosol cans), mercury, prohibited liquids, sealed containers >4 liters, sharp objects, impenetrable waste/objects or impenetrable lead shielding. ²⁴³ An IDC change to RF-336 or RF-337 is not recommended because these are all organic debris waste also assigned to WSPF ID-RF-S5300-A. Prior to 1978, drums may contain compacted waste. ³	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Filters	Composite Filters	S5000
S5410	RF-335	Absolute 8 × 8 Filters
WIPP Status	WIPP Candidate	
Waste Description	Absolute glovebox air intake and exhaust HEPA filters. Filter sizes include 8 × 8 × 6 inches, 8 × 8 × 4 inches, and 12 × 12 × 6 inches. The glovebox filter frames are wood or metal. The filter media is fiberglass and Nomex (glass and aromatic polyamide fibers). The filter media can also be made of asbestos. The mesh screen is made of aluminum. The waste may also contain <50% by volume metal debris items. ⁷⁰	
Inner Packaging	O-Ring bag / Poly bag or Poly bag / Poly bag Filter media may be packaged in poly bottles.	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag A limited number of drums may be lead-lined.	
Box Preparation	Poly Box Liner / Cardboard Box Liner	
Primary Waste Parameter(s)	Cellulosics (90%) and aluminum-based metals/alloys (10%). NOTE: <i>Conservatively assign filter media in wood frame as cellulosics. Cement should be identified as other inorganic materials.</i>	
Special Notes	Based on RTR results, waste may contain prohibited liquids, sealed containers >4 liters, sharp objects, or impenetrable lead shielding. ²⁴³ An IDC change to RF-328, RF-338, RF-360, RF-376, or RF-490 is not recommended, because these are all filter/insulation waste also assigned to WSPF BN211.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Combustibles	Organic Debris	S5000
S5300⁸⁹	RF-336	Paper and Rags-Moist
WIPP Status	WIPP Candidate – Drums may also be characterized by CCP	
Waste Description	Cloth, paper and wood products including items such as wipes, towels, rags, coveralls, booties, gloves, and HEPA filter frames. Waste was packaged as a moist waste. Waste may also contain any amount of plastic and rubber but may only contain <50% by volume glass, metal and other inorganic material debris items (e.g., concrete, cement, metal scrap, leaded-glovebox gloves, lead tape, surgeon’s gloves, raschig rings, vials, bottles, nails, cans, lead sheeting, bolts, pipe, welding rods, batteries, tools, and wire). Absorbent (Oil-Dri [®] or vermiculite) was added during packaging.	
Inner Packaging	O-Ring bag / Poly bag or Poly bag / Poly bag Waste in boxes may be contained in 1 to 4 layers of plastic.	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag or O-Ring bag Drums may be lead-lined (waste from americium recovery line).	
Box Preparation	Poly Box Bag / Cardboard Box Liner Up to 200 pounds of absorbent (Oil-Dri [®]) added during packaging.	
Primary Waste Parameter(s)	Cellulosics, plastic (waste materials), rubber	
Special Notes	<p>Based on RTR results, waste may contain light ballasts (which may contain PCBs), compressed gas cylinders (including aerosol cans), cans with ignitable liquids, mercury, prohibited liquids, sealed containers >4 liters, sharp objects, impenetrable objects/waste, or impenetrable lead shielding.²⁴³</p> <p>Individual drums may contain one-gallon metal cans of cemented sludge.⁹⁴</p> <p>Based on the markings on container 10174247 (e.g., hand written “compacted”), individual containers may contain compacted waste.</p> <p>If >50% by volume homogeneous solids, recommend an IDC change. IDC UN-00A may be used if type of homogeneous solids is unknown (e.g., no markings on the drum).</p> <p>An IDC change to RF-330 or RF-337 is not recommended because these are all organic debris waste also assigned to WSPF ID-RF-S5300-A.</p> <p>Lack of absorbent is acceptable.</p>	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Combustibles	Organic Debris	S5000
S5300 ⁸⁹	ID-337	Plastic, Teflon, Wash, PVC, Ret. RF TRU
WIPP Status	WIPP Candidate	
Waste Description	Plastic and non-leaded rubber waste includes debris items in the form of empty bottles, piping, tubing, glovebox windows, bags, tape, sheeting, and protective clothing (e.g., supplied air suits, surgeon's gloves, booties, respirator masks, parts and cartridges, and non-leaded glovebox gloves), etc. Types of plastic include polyethylene, polypropylene, PVC, Teflon, tygon, and plexiglas. Types of rubber include latex, neoprene, hypalon and viton). "Washables" are rubber- and plastic-based materials that received a washing in Building 776 prior to being shipped offsite. Waste may also contain any amounts of cloth, paper and wood products including items such as wipes and paper. Waste may only contain <50% by volume metal and other inorganic material debris items (e.g., concrete, cement, leaded-glovebox gloves, surgeon's gloves, lead tape, and glass and metal items such as raschig rings, nails, cans, vials, bottles, lead sheeting, bolts, pipe, welding rods, batteries, tools, and wire). Absorbent may have been added to waste. ²⁷⁴	
Inner Packaging	To be determined by RTR/VE. ²⁷⁴	
Drum Preparation	To be determined by RTR/VE. ²⁷⁴	
Primary Waste Parameter(s)	Plastic (waste materials), Cellulosics, Rubber	
Special Notes	<p>This waste consists of containers of IDC RF-337 retrieved from TSA-1, Cell 5 during 1983. The containers were sent to the Rocky Flats Plant, opened, and the contents were reviewed, sorted, and repackaged. It is assumed this waste is similar to the original RF-337 waste.^{2, 17, 54, 274}</p> <p>Based on RTR results, waste may contain compressed gases (including aerosol cans), prohibited liquids, sealed containers >4 liters, sharp objects, impenetrable objects/waste, or impenetrable lead shielding.²⁴³</p> <p>For a drum comprised primarily of respirator masks with metal cartridges, assign Rubber (80%), Aluminum-based Metals/Alloys (15%) and Cellulosics (5%).</p>	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Combustibles	Organic Debris	S5000
S5300⁸⁹	RF-337	Plastic, Teflon, Washables, PVC
WIPP Status	WIPP Candidate – Drums may also be characterized by CCP	
Waste Description	Plastic and non-leaded rubber waste includes debris items in the form of empty bottles, piping, tubing, glovebox windows, bags, tape, sheeting, and protective clothing (e.g., supplied air suits, surgeon’s gloves, booties, respirator masks, parts and cartridges, and non-leaded glovebox gloves), etc. Types of plastic include polyethylene, polypropylene, PVC, Teflon, tygon, and plexiglas. Types of rubber include latex, neoprene, hypalon and viton). “Washables” are rubber- and plastic-based materials that received a washing in Building 776 prior to being shipped offsite. ⁵³ Waste may also contain any amounts of cloth, paper and wood products including items such as wipes and paper. ⁵⁷ Waste may only contain <50% by volume metal and other inorganic material debris items (e.g., concrete, cement, leaded-glovebox gloves, surgeon’s gloves, lead tape, and glass and metal items such as raschig rings, nails, cans, vials, bottles, lead sheeting, bolts, pipe, welding rods, batteries, tools, and wire). Absorbent may have been added to waste.	
Inner Packaging	O-Ring bag / Poly bag or Poly bag / Poly bag	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag A limited number of drums are lead-lined.	
Box Preparation	Box Poly Bag / Cardboard Box Liner	
Primary Waste Parameter(s)	Plastic (waste materials), cellulosics, rubber	
Special Notes	Based on RTR results, waste may contain compressed gases (including aerosol cans), prohibited liquids, sealed containers >4 liters, sharp objects, impenetrable objects/waste, or impenetrable lead shielding. ²⁴³⁾ For a drum comprised primarily of respirator masks with metal cartridges, assign Rubber (80%), aluminum-based metals/alloys (15%) and Cellulosics (5%). An IDC change to RF-330 or RF-336 is not recommended because these are all organic debris waste also assigned to WSPF ID-RF-S5300-A.	

Lead/Cadmium Metal	Non-Activated Lead	X7000
X7211	BL-338	RWMC Lead Shielded Overpack Empty
WIPP Status	Waste Not Currently Included in AMWTP Scope for WIPP Disposal	
Waste Description	Lead shielded overpack drums that are empty	
Inner Packaging	<i>Not currently summarized</i>	
Drum Preparation	<i>Not currently summarized</i>	
Primary Waste Parameter(s)	Other Metals (e.g., lead)	
Special Notes	TBD	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Filters	Composite Filters	S5000
S5410	RF-338	Insulation and CWS Filter Media
WIPP Status	WIPP Candidate	
Waste Description	Filter media (fiberglass, asbestos, paper), asbestos-type or fiberglass pipe insulation, baffling insulation, and asbestos fire blankets and gloves. The majority of the waste drums are believed to be filter media generated from splitting CWS, absolute and HEPA filters apart. Waste may also contain <50% by volume aluminum and wood filter frames.	
Inner Packaging	1-gallon Poly bottle / PVC bag / Poly bag or PVC or Poly bag / Poly bag Insulation waste may be placed directly into drum/box or wrapped with tape. Gloves and fire blankets may be single or double-contained in plastic.	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Up to 5 pounds absorbent added to bottom of drum bag.	
Box Preparation	Poly Box Bag / Cardboard Box Liner	
Primary Waste Parameter(s)	Fiberglass filter media and insulation are Other Inorganic Materials. CWS Filter media are conservatively assigned cellulosics. Asbestos and baffling insulation are other inorganic materials. Pre-filters (home furnace type) are cellulosics. NOTE: <i>Conservatively assign filter media as cellulosics when the type of media cannot be determined.</i>	
Special Notes	Based on RTR results, waste may contain prohibited liquids, sharp objects, or impenetrable lead shielding. ²⁴³ There may be some aluminum tape on the pipe insulation. Drum may contain a type of CWS filter with a metal housing (looks like a coffee can without a lid or bottom) and is conservatively assigned cellulosics (90%) and iron-based metals/alloys (10%). A limited number of drums may contain compacted insulation waste. After 1976, this IDC was phased out and waste was incorporated into IDC RF-376. ²⁰ An IDC change to RF-328, RF-335, RF-360, RF-376, or RF-490 is not recommended because these are all filter/insulation waste also assigned to WSPF BN211.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Combustibles	Leaded Gloves/Aprons	S5000
S5311	RF-339	Leaded Rubber Gloves and Aprons
WIPP Status	WIPP Candidate	
Waste Description	Primarily neoprene/hypalon leaded glovebox gloves and leaded aprons and may also contain lead sheeting and bricks.	
Inner Packaging:	O-Ring bag / Poly bag or no inner bags if generated by Size Reduction Facility in Building 776	
Drum Preparation	Rigid Liner / Poly Drum Bag/ Poly Drum Bag Some drums may be lead-lined.	
Box Preparation	Poly Box Liner / Cardboard Box Liner	
Primary Waste Parameter(s)	Gloves and aprons are 100% Rubber - assigned per Carlsbad Field Office (CBFO) (WAP Table B3-1)	
Special Notes	<p>Based on results of RTR examination, waste may contain prohibited liquids, impenetrable objects/waste. ²⁴³</p> <p>Aprons are identifiable by shoulder harness rings.</p> <p>An IDC change to RF-463 is not recommended because this is leaded rubber waste also assigned to WSPF BN252.</p> <p>Historical ID typically begins with "IDRF0019."</p> <p>IDC RF-339 replaced IDC RF-463 in 1973.</p>	

Filters	Composite Filters	S5000
S5410	RF-360	Insulation
WIPP Status	WIPP Candidate	
Waste Description	Asbestos-type pipe insulation, fiberglass pipe insulation, baffling insulation, asbestos fire blankets and gloves, and filter media (fiberglass, asbestos, paper) from prefilters and filters. Waste may also contain <50% by volume combustible material such as surgeon's gloves. Portland cement or absorbent was added to wet waste.	
Inner Packaging	Poly bag / Poly bag	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag	
Box Preparation	Poly Box Bag / Cardboard Box Liner	
Primary Waste Parameter(s)	<p>Asbestos-type insulation is Other Inorganic Materials.</p> <p>Pre-filters (home furnace type) are cellulose.</p> <p>NOTE: <i>Conservatively assign filter media as cellulose when the type of media cannot be determined.</i></p>	
Special Notes	<p>Based on RTR results, waste may contain aerosol cans, prohibited liquids, or sealed containers >4 liters. ²⁴³</p> <p>There may be some aluminum tape on the pipe insulation.</p> <p>An IDC change to RF-328, RF-335, RF-338, RF-376, or RF-490 is not recommended, because these are all filter/insulation waste also assigned to WSPF BN211.</p> <p>IDC RF-360 was replaced by IDC RF-338 in 1973.</p>	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Inorganics		Unknown/Other Inorganic Particulates		S3000
S3119	RF-361	Insulation Heel		
WIPP Status	WIPP Candidate			
Waste Description	Insoluble insulation residue or “heel” remaining after the dissolution process to dissolve Pu contaminants in acid for reprocessing. Generated from an R&D process.			
Inner Packaging	8801 and 8802 Vollrath stainless steel cans, and/or ½ - 1-gallon poly bottles.			
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / Poly drum bag / Fiberboard liner 1 – 2 quarts Oil-Dri® or vermiculite in bottom of outer drum bag.			
Primary Waste Parameter(s)	Other Inorganic Materials			
Special Notes	TBD			

Inorganic Non-Metal		Unknown/Other Inorganic Debris		S5000
S5190⁶³	RF-368	Magnesium Oxide Crucibles		
WIPP Status	WIPP Candidate			
Waste Description	Magnesium oxide (MgO ₂) crucibles and crucible pieces from the plutonium reprocessing activities. The crucibles may also contain <50% by volume residual salts. Waste may also contain <50% by volume cellulose and plastics.			
Inner Packaging	O-Ring bag / Poly bag Poly bag / Poly bag May be packaged in 1-gallon poly bottles, metal cans, or clamshell containers			
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag			
Primary Waste Parameter(s)	Other Inorganic Materials			
Special Notes	If closed, the clamshell container is a sealed container >4 liters.			

Inorganic Non-Metal		Unknown/Other Inorganic Debris		S5000
S5190⁶³	RF-370	Leco Crucibles		
WIPP Status	WIPP Candidate			
Waste Description	Aluminum silicate-based ceramic crucibles ranging from 4-inch × ¾-inch square to 1-inch × 1-inch diameter. The crucibles may be intact or in pieces. Waste may also contain <50% by volume plastics and metals.			
Inner Packaging	1-gallon metal paint cans / PVC bag / Poly or PVC bag			
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag			
Primary Waste Parameter(s)	Other Inorganic Materials			
Special Notes	Prior to 1975, crucibles were broken before packaging into paint cans. Prior to 1972, IDC RF-370 may have been used for debris waste other than Leco Crucibles. For example, the contents of containers generated prior to 1972 may be >50% volume various debris types or even soils and solids (see RF-371). If < 50% Leco crucibles, then recommend an IDC change. ¹⁸⁵			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Inorganic Non-Metal	Ceramic/Brick Debris	S5000
S5123	RF-371	Fire Brick
WIPP Status	WIPP Candidate	
Waste Description	Fire brick from Building 771 plutonium recovery incinerator. Individual drums may include primarily construction bricks and cinderblocks from the cleanup of the 1969 fire. Waste may also contain <50% by volume plastic, rubber, insulation, and metal debris items (e.g., surgical gloves, foil, and thermocouples). ⁷¹	
Inner Packaging	Poly bag / Poly bag or Poly bag / Poly bag / Fiberpak or placed directly into waste drum or box	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag	
Box Preparation	Poly Box Bag / Cardboard Box Liner	
Primary Waste Parameter(s)	Other Inorganic Materials	
Special Notes	<p>Based on RTR results, waste may contain light ballasts (which may contain PCBs), aerosol cans, prohibited liquids, or sealed containers >4 liters, sharp objects, or impenetrable waste.²⁴³</p> <p>The brick or cinderblock shapes (including some broken bricks/blocks) should be identifiable by RTR. If brick/block shapes are not visible throughout the waste container, an AK or RTR SME evaluation is required.</p> <p>The contents of containers generated prior to 1974 were inconsistent with the current IDC and may be >50% by volume soil or construction rubble (e.g., concrete, blacktop) or any type of D&D waste. Recommend change to IDC RF-697 (>50% by volume soil, gravel, or sand) or IDC RF-374 (>50% by volume debris), if the waste was packaged after November 26, 1972.^{58, 59, 78} Recommend change to IDC RF-090 (>50% by volume soil, gravel, or sand) or IDC RF-960 (>50% by volume construction rubble debris), if packaged prior to November 27, 1972.</p> <p>An IDC change to RF-377 is not recommended because this is fire brick waste also assigned to WSPF BN161.</p>	

Heterogeneous Debris Waste	Unknown/Other Heterogeneous Debris	S5000
S5490⁹	RF-372	Grit
WIPP Status	WIPP Candidate	
Waste Description	Aluminum oxide, iron fines, or iron pellets, or silica used for grit blasting activities. Grit blasting media such as walnut shells, glass beads, and ceramic beads may also be included. ⁹	
Inner Packaging	1-gallon poly bottles / O-ring bag / small poly bag PVC or Poly Bag / 8801 or 8802 Vollrath Stainless Steel Can	
Drum Preparation	Rigid Liner (after 1971) / poly drum bag / poly drum bag Up to 2 quarts Oil-Dri [®] added on top of outer sealed poly drum bag.	
Primary Waste Parameter(s)	Other inorganic materials, iron-based metals/alloys, aluminum-based metals/alloys NOTE: <i>Any amount of other debris waste parameters may be present.</i>	
Special Notes	<p>Based on RTR results, waste may contain sealed containers >4 liters (e.g., clamshells) or sharp objects.²⁴³</p> <p>There may be metal fines with the grit, but metal fines will not be distinguishable at the RTR.</p>	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490 ⁵⁵	RF-374	Blacktop, Concrete, and Construction Rubble	
WIPP Status	WIPP Candidate		
Waste Description	Blacktop, concrete, cinder blocks, rock, and construction rubble generated from construction, demolition, maintenance, size reduction, repackaging, decontamination, and decommissioning operations. Waste may also contain any amount of building or debris material that may be logically expected from these operations, including combustibles, metal, glass, plastic, rubber, ceiling tiles, floor tiles, sheetrock, etc. ³⁷ Waste may only contain <50% by volume dirt and soil.		
Inner Packaging	Single- or double-contained in Poly or PVC Bags or Packaged in Fiberpaks or Placed directly into waste container		
Drum Preparation	Rigid Liner (after 1971) / up to two Poly Drum Bags May have cardboard drum liner		
Box Preparation	Poly Box Bag / Cardboard Box Liner		
Primary Waste Parameter(s)	Other Inorganic Materials (e.g., concrete, rock, stone portion of blacktop, felt portion of tar paper), Organic Matrix (e.g., 5% for organic binder portion of blacktop; 10% for organic binder portion of tar paper) NOTE: <i>Any amount of other debris waste parameters may be present and <50% by volume soil/gravel is allowed.</i>		
Special Notes	<p>Based on RTR results, waste may contain aerosol cans, prohibited liquids, sealed containers >4 liters, sharp objects, or impenetrable waste.²⁴³</p> <p>The earliest known package date for IDC RF-374 stored at INL is November 26, 1972. IDCs RF 090, 990, and 960 were used before and after this date for similar wastes. IDCs 090, 960 and 990 were not shipped to INL after 1975.¹⁵²</p> <p>The contents of containers generated prior to 1974 were inconsistent with the current IDC and may be >50% by volume soil or construction rubble (e.g., concrete, blacktop) or any type of D&D waste.</p> <p>WMC 5490/IDC RF-374 can ONLY be used if >50% by volume debris (e.g., metal, concrete, blacktop, rock or other debris materials).</p> <p>If >50% by volume soil, gravel, or sand (natural geologic material ≤ 2.36 inches [60 millimeters]), then recommend change to IDC RF-697. Soil is expected to be packaged directly into 55-gallon drum.</p> <p>If >50% homogeneous solids, recommend an IDC change based on information on traveler. IDC UN-00A may be used if type of homogeneous solids is unknown (e.g. type of homogeneous solids is not identified by the markings on the drum). Individual drums assigned historical IDC RF-374 have been found to contain homogeneous solids (e.g., one-gallon metal paint cans of cemented sludge or 1-gallon poly bottles of cemented resins) and an IDC change is required.^{92, 93}</p> <p>If indeterminate, recommend IDC UN-00B or UN-00C and an AK evaluation will be performed.</p> <p>Small cans and bottles of various liquids (including lubricant, jelly, and paint) were reportedly found in individual boxes of MLLW.¹¹⁸</p> <p>The title of the IDC RF-374 was modified by AMWTP from “Blacktop, Concrete, Dirt, and Sand” to “Blacktop, Concrete, and Construction Rubble” to reflect IDC RF-374 waste stored at INL is only debris waste.</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics	Inorganic Particulate Absorbents		S3000
S3113	RF-375	Oil-Dri®	
WIPP Status	WIPP Candidate		
Waste Description	Oil-Dri®, vermiculite, and includes Oil-Dri® segregated from combustible feed to Plutonium Recovery Incinerator. Waste may also contain <50% by volume debris (e.g., rags, sorbent booms).		
Inner Packaging	1-gallon Poly bottles / O-Ring bag / Small Poly bag or Metal Paint Can / O-Ring bag / Small Poly bag Either of these configurations may also have been packaged into a clamshell prior to placement in waste drum.		
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / Poly drum bag / Fiberboard liner May have absorbent between outer poly drum bag and the rigid liner		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	If closed, the clamshell container is a sealed container >4 liters.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Filters	Composite Filters	S5000
S5410	RF-376	Cemented Insulation and Filter Media
WIPP Status	WIPP Candidate	
Waste Description	Filter media from various filters (prefilters, absolute glovebox, etc.), incinerator Ful-Flo filters, and whole filters such as 8 × 8 × 6-inch or 8 × 8 × 4-inch Absolute glovebox filters with wood or aluminum frames. Waste may include limited amounts on insulation waste, asbestos gloves, and fire blankets. Portland cement was added to the waste as an absorbent and for neutralization (up to 50 pounds for a drum and up to 180 pound for a box). Waste may also contain <50% by volume paper, rags, plastic, glass, and metal debris items. ⁷⁰	
Inner Packaging	15-gallon Poly bag or smaller Poly bags	
Drum Preparation	Rigid Liner (after 11971) / Poly Drum Bag / Poly Drum Bag	
Box Preparation	Poly Box Bag / Cardboard Box Liner	
Primary Waste Parameter(s)	<p>Filter media is either other inorganic material or cellulose. Insulation, asbestos, and cement are other inorganic materials.</p> <p>NOTE: <i>Conservatively assign filter media in whole filters in wood frame as cellulose or when type of media cannot be determined.</i></p> <p>HEPA filters with wood frames and aluminum mesh screens or baffles are cellulose (90% for frame and filter media) and aluminum-based metals/alloys (10% for screens and baffles). HEPA filters with wood frames and with asbestos baffles are cellulose (90% for frame and filter media) and other inorganic materials (10% for baffles). HEPA filters with metal frames and aluminum mesh screens or baffles are cellulose (10% for filter media), iron-based metals/alloys (85% for frame), and aluminum-based metals/alloys (5% for screens and baffles). HEPA filters with metal frames and with asbestos baffles are cellulose (10% for filter media), iron-based metals/alloys (85% for frame), and other inorganic materials (5% for baffles). Respirator canisters weigh about 0.25 pounds. The waste parameters for the respirator cartridges are divided in aluminum-based metals/alloys (70%) and Cellulose (30%). One type of CWS filter has a housing that looks like a coffee can without a lid or bottom and is conservatively assigned cellulose (90%) and iron-based metals/alloys (10%). Ful-Flo filters (filter with grooves or cross hatched weave) are plastic (waste materials). Pre-filters, similar to the type of filter used in a home furnace, are cellulose (100%).</p>	
Special Notes	<p>Based on RTR results, waste may contain aerosol cans or prohibited liquids. Based on VE results, waste may also contain sharp objects.²⁴³</p> <p>There may be some aluminum tape on the pipe insulation. A full face respirator weighs 3 pounds and is mostly rubber. Waste packaged prior to 1979 may be packaged in bottles, cans or plastic bags other than 15-gallon plastic bag.^{3,90} Do not recommend an IDC change if >50% by volume insulation or filter media. An IDC change to RF-328, RF-335, RF-338, RF-360, or RF-490 is not recommended because these are all filter/insulation waste also assigned to WSPF BN211.</p>	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Inorganic Non-Metal	Ceramic/Brick Debris		S5000
S5123	RF-377	Coarse Fire Brick	
WIPP Status	WIPP Candidate		
Waste Description	Fire brick from the Building 771 plutonium recovery incinerator. Pieces from ¼ inch to 1 inch.		
Inner Packaging	Poly bag / Poly bag Poly bag / Poly bag / Fiberpak		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	An IDC change to RF-371 is not recommended, because this is fire brick waste also assigned to WSPF BN161.		

Inorganic Non-Metal	Unknown/Other Inorganic Debris		S5000
S5190⁶⁴	RF-391	Crucibles and Sand	
WIPP Status	WIPP Candidate		
Waste Description	These are the spent MgO ₂ crucibles and spent MgO ₂ sand from the button break out and foundry areas that have not been pulverized. The crucibles are broken and may include fines. Waste may also contain <50% by volume metal and plastic debris items.		
Inner Packaging	1-gallon Poly bottle or 1-gallon metal paint can / O-Ring bag / Poly bag		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Some drums may be lead-lined		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Based on RTR results, waste may contain prohibited liquids, sealed containers >4 liters (e.g., clamshells) impenetrable waste or impenetrable lead shielding. ²⁴³		

Inorganic Non-Metal	Unknown/Other Inorganic Debris		S5000
S5190⁶⁴	RF-392	Sand, Slag, and Crucible	
WIPP Status	WIPP Candidate		
Waste Description	These were the spent MgO ₂ crucibles, slag, and spent sand from the button break out and foundry areas. The crucibles were broken into smaller pieces. Waste may also contain <50% by volume metal and plastic debris items.		
Inner Packaging	½ or 1-gallon Poly bottle or 1-gallon metal paint can / O-Ring bag / Poly bag		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Based on RTR results, waste may contain sealed containers >4 liters (e.g., clamshells) or impenetrable waste. ²⁴³		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganic	Unknown/Other Inorganic Particulates		S3000
S3119¹³	RF-393	Sand, Slag, and Crucible Heels	
WIPP Status	WIPP Candidate		
Waste Description	The spent MgO ₂ crucible, slag, and sand from the button break out and foundry areas were processed through the ball mill to make into a coffee ground consistency and then processed through dissolution to recover the Pu. The material that did not dissolve in the dissolution process is the sand, slag, and crucible (SS&C) heels. Waste may or may not contain absorbent. Waste may also contain <50% by volume plastic debris items.		
Inner Packaging	½ to 1-gallon Poly bottle / O-Ring bag / Poly bag May be packaged in 1-gallon paint cans.		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Approximately 15 to 30 bottles were packed in each drum. Based on RTR results, waste may contain sealed containers >4 liters (e.g., clamshells) or sharp objects. ²⁴³ If waste form is cemented pucks in plastic bags instead of uncemented heel in small containers (poly bottles or metal cans), then recommend an IDC change to RF-817. If indeterminate, recommend an IDC change to UN-00A and an AK evaluation will be performed.		

Salt Waste	Chloride Salts		S3000
S3141	RF-409	Molten Salts-30% Unpulverized	
WIPP Status	WIPP Candidate		
Waste Description	Unpulverized fused chunks of spent salt with a 30 mole% magnesium chloride		
Inner Packaging	Stainless steel can (8801, 8802, Stacker cans) or produce cans / O-Ring bag / small poly bag/ 8802 or 8803 stainless steel can		
Drum Preparation	Waste Area Drum: Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Glovebox Load-Out Drum: Rigid Liner (after 1971) / Poly Drum Bag / O-Ring Load-Out Drum Bag / Fiberboard liner and disc		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	TBD		

Salt Waste	Chloride Salts		S3000
S3141	RF-410	Molten Salts-30% Pulverized	
WIPP Status	WIPP Candidate		
Waste Description	Pulverized spent salt with a 30 mole% magnesium chloride		
Inner Packaging	Stainless steel can (8801, 8802, Stacker cans) or produce cans / O-Ring bag / small poly bag/ 8802 or 8803 stainless steel can.		
Drum Preparation	Waste Area Drum: Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Glovebox Load-Out Drum: Rigid Liner (after 1971) / Poly Drum Bag / O-Ring Load-Out Drum Bag / Fiberboard liner and disc		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Up to 50 cans per drum.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Salt Waste	Chloride Salts	S3000
S3141	RF-411	Electrorefining Salt
WIPP Status	WIPP Candidate	
Waste Description	Spent salt from the electrorefining process. The salt is a combination of chunks, granular, and fine particles. Waste may also contain <50% by volume metal pieces.	
Inner Packaging	Stainless steel can (8801, 8802, Stacker cans) or produce cans / O-Ring bag / small poly bag/ 8802 or 8803 stainless steel can or 1-gallon paint cans	
Drum Preparation	Waste Area Drum: Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Glovebox Load-Out Drum: Rigid Liner (after 1971) / Poly Drum Bag / O-Ring Load-Out Drum Bag / Fiberboard liner and disc	
Primary Waste Parameter(s)	Other Inorganic Materials	
Special Notes	Up to 50 cans per drum. Based on RTR results, waste may contain sealed containers >4 liters (e.g., clamshells). ²⁴³ If 1-gallon paint cans are present, then there may be lead or lead tape in paint cans.	

Salt Waste	Chloride Salts	S3000
S3141	RF-412	Gibson Salts
WIPP Status	WIPP Candidate	
Waste Description	Gibson Spent Salt was generated from the Experimental Recovery Process to purify Pu. The salt is in the form of chunks and fines.	
Inner Packaging	Stainless steel can (8801, 8802, Stacker cans) or produce cans / O-Ring bag / small poly bag/ 8802 or 8803 stainless steel can	
Drum Preparation	Waste Area Drum: Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Glovebox Load-Out Drum: Rigid Liner (after 1971) / Poly Drum Bag / O-Ring Load-Out Drum Bag / Fiberboard liner and disc	
Primary Waste Parameter(s)	Other Inorganic Materials	
Special Notes	Up to 50 cans per drum. Fiberpaks or clamshells may be lead lined or taped. If closed, the clamshell container is a sealed container >4 liters.	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Salt Waste	Chloride Salts	S3000
S3141	RF-414	Direct Oxide Reduction Salt
WIPP Status	WIPP Candidate	
Waste Description	Spent Salt was generated from the direct oxide reduction process. The salt is in the form of chunks and fines. Waste may also contain <50% by volume ceramic debris items.	
Inner Packaging	Stainless steel can (8801, 8802, Stacker cans) or produce cans / O-Ring bag / small poly bag / 8802 or 8803 stainless steel can	
Drum Preparation	Waste Area Drum: Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Glovebox Load-Out Drum: Rigid Liner (after 1971) / Poly Drum Bag / O-Ring Load-Out Drum Bag / Fiberboard liner and disc	
Primary Waste Parameter(s)	Other Inorganic Materials	
Special Notes	Based on RTR results, waste may contain sealed containers >4 liters (e.g., clamshells). ²⁴³ Fiberpaks or clamshells may be lead lined or taped. If closed, the clamshell container is a sealed container >4 liters. Expect Oil-Dri [®] or vermiculite inside the rigid liner.	

Uncategorized Metal	Metal Debris without Lead or Cadmium	S5000
S5111	RF-416	Zinc Magnesium Alloy Metals
WIPP Status	WIPP Candidate	
Waste Description	Billets or ingots of zinc-magnesium alloy metal from R&D work.	
Inner Packaging	Produce Can / Poly bag / Poly bag / 8802 Vollrath Can O-Ring bag / Poly bag	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag	
Primary Waste Parameter(s)	Other Metals	
Special Notes	Up to 50 cans per drum. This waste consists of a single drum, historical ID is RF005400298.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Ash	S3000
S3111	RF-420	Ash, Incinerator (Virgin)	
WIPP Status	WIPP Candidate		
Waste Description	Ash from incinerated combustibles at the Building 771 plutonium recovery incinerator. Ash was pulverized in a ball mill. Waste may also contain <50% by volume miscellaneous tramp metal and bits of unburned feed materials.		
Inner Packaging	½-gallon or 1-gallon Poly bottle / O-Ring bag / Small Poly bag The bottles may be bagged out separately or in groups.		
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / Poly drum bag Oil-Dri [®] or vermiculite in bottom of inner bag.		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Up to 25 bottles per drum. Based on RTR results, waste may contain sealed containers >4 liters (e.g., large Vollrath cans or clamshells). ²⁴³ If waste form is cemented pucks in plastic bags instead of uncemented ash in poly bottles, then recommend an IDC change to RF-818. If indeterminate, recommend an IDC change to UN-00A and an AK evaluation will be performed.		

Solidified Inorganics		Ash	S3000
S3111	RF-421	Ash Heels	
WIPP Status	WIPP Candidate		
Waste Description	Ash heels are the remaining ash from the dissolution process. Incinerator ash was dissolved in nitric acid to recover Pu. The ash that did not dissolve was collected on an R-6 filter pad and dried. This dried ash is the ash heel.		
Inner Packaging	½-gallon or 1-gallon poly bottle / O-Ring bag / Small Poly bag The bottles may be bagged out separately or in groups The waste may also be packaged in 8801/8802 cans.		
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / Poly drum bag 1 – 2 quarts Oil-Dri [®] or vermiculite in bottom of outer drum bag. Individual packages are placed in the prepared drum		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Up to 25 bottles per drum. The waste may also be packaged in 8801/8802 cans. Based on RTR results, waste may contain sealed containers >4 liters (e.g., clamshells) or sharp objects. ²⁴³		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Ash	S3000
S3111	RF-422	Soot	
WIPP Status	WIPP Candidate		
Waste Description	Soot is the waste collected from the cleaning of the plutonium recovery incinerator off-gas system.		
Inner Packaging	1-2 quart Poly bottles/ O Ring Bags / Small Poly bags (could be placed in additional Small Poly bags. Bottles may be packaged out of the glovebox as a group or individually		
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / Poly drum bag Oil-Dri [®] or vermiculite in bottom of inner bag. Individual packages were placed in prepared drums.		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Up to 50 bottles per drum. Based on RTR results, waste may contain prohibited liquids or sealed containers >4 liters (e.g., clamshells). ²⁴³ If waste form is cemented pucks in plastic bags instead of uncemented soot in poly bottles, then recommend an IDC change to RF-820. If indeterminate, recommend an IDC change to UN-00A and an AK evaluation will be performed.		

Solidified Inorganics		Ash	S3000
S3111	RF-425	Fluid Bed Ash	
WIPP Status	WIPP Candidate		
Waste Description	Fluid bed ash was generated from the combustion of combustible materials in the FBI pilot plant or the FBI demonstration unit.		
Inner Packaging	<u>FBI Pilot Plant Ash</u> : Small Poly bag/ O-Ring bag / Small Poly bag <u>FBI Demonstration Plant Ash</u> : Direct loaded		
Drum Preparation	<u>FBI Pilot Plant Ash</u> : Rigid Liner / Drum Bag / Drum Bag <u>FBI Demonstration Plant Ash</u> : Rigid Liner / Poly Drum Bag / O-Ring Load-Out Drum Bag / Fiberboard liner		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Oil-Dri [®] / vermiculite may be in outer drum bag and/or rigid liner. Based on RTR results, waste may contain sharp objects. ²⁴³		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Combustibles	Unknown/Other Organic Debris		S5000
S5390¹⁰	RF-430	Unleached Ion Column Resin	
WIPP Status	WIPP Candidate		
Waste Description	Spent anion and cation exchange resins from Pu and Am purification and recovery processes.		
Inner Packaging	Packaged in either a Fiberpak lined with poly bags and single or double bagged or a 1-gallon poly bottle and double bagged. Resin may have also been packaged in Kraft tubes. ^{2, 54} Based on RTR examinations, resin was also packaged in metal cans.		
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / Poly drum bag Resin waste from the americium recovery line packaged in lead-lined drums.		
Primary Waste Parameter(s)	Plastic (waste material)		
Special Notes	Based on RTR results, waste may contain prohibited liquids or sealed containers >4 liters (e.g., clamshells). ²⁴³ Up to 10 Fiberpaks or up to 20 bottles per drum. After 1972, resins were leached, cemented and assigned IDC RF-432.		

Combustibles	Unknown/Other Organic Debris		S5000
S5390¹⁰	RF-431	Leached Resin	
WIPP Status	WIPP Candidate		
Waste Description	Spent anion and cation exchange resins from Pu and Am purification and recovery processes. These resins were subsequently processed by leaching to recover the plutonium.		
Inner Packaging	Packaged in either a Fiberpak lined with poly bags and single or double bagged or a 1-gallon poly bottle and double bagged. Resin may have also been packaged in Kraft tubes. ² Based on RTR examinations, resin was also packaged in metal cans.		
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / Poly drum bag Resin waste from the americium recovery line packaged in lead-lined drums.		
Primary Waste Parameter(s)	Plastic (waste material)		
Special Notes	Based on RTR results, waste may contain prohibited liquids. ²⁴³ Up to 10 Fiberpaks or up to 20 bottles per drum. After 1972, leached resins were cemented and assigned IDC RF-432. Waste may be packaged in clamshells which are sealed containers >4 liters if closed.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Organic		Organic Homogeneous Solids	S3000
S3211 ¹⁰	RF-432	Resin, Leached and Cemented	
WIPP Status	WIPP Candidate		
Waste Description	Leached, spent anion and cation exchange resins cemented with Portland cement and water. One-half inch of dry Portland cement was added to the bottle before the slurry was added and on top of the hardened resin/cement mixture.		
Inner Packaging	½ or 1-gallon Poly bottle or metal can/ Poly Bag / Poly Bag Waste may be packaged in 30-gallon drum inside a 55-gallon drum. Some drums have lead lining (1/16- to 1/8-inch) in the 30 or 55-gallon drums, or a combination of both. ¹²⁵		
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / Poly drum bag Drums may be lead-lined (waste from americium recovery line, see above).		
Primary Waste Parameter(s)	Organic Matrix ¹⁵ NOTE: <i>Portland cement separate from cemented resins is Other Inorganic Materials.</i>		
Special Notes	Up to 20 bottles per drum. Based on RTR results, waste may contain prohibited liquids, sealed containers >4 liters, sharp objects, impenetrable waste or impenetrable lead shielding. ²⁴³ Waste may be packaged in clamshells which are sealed containers >4 liters if closed.		

Inorganic Non-Metal		Glass Debris	S5000
S5122	RF-44A	WETP Bin Program - Glass	
WIPP Status	WIPP Candidate		
Waste Description	WETP Bin Program (IDCs RF-440, RF-441, and RF-442)		
Inner Packaging	Bagged waste was removed from IDC RF-440, RF-441, and RF-442 drums for VE. Bags were breached for VE. After VE, waste was placed directly into bins. Waste may have been bagged out of the glove box or placed in Fiberpaks due to presence of sharp objects. Poly bag / Poly bag Poly bag / Poly bag / Fiberpak.		
Bin Preparation	Wire mesh was placed in the bins (possibly on top of and under the waste). Bins were then overpacked in SWBs.		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	Can include small, broken glass pieces that are parts of Raschig rings (IDCs RF-441 and RF-442). If tank sludge/dried particulate (homogeneous solids) is noted, identify as Inorganic Matrix. WMC S5122/IDC RF-44A can ONLY be used if >50% by volume debris. If >50% by volume homogeneous solids, recommend an IDC change. IDC UN-00A may be used if type of homogeneous is unknown. If indeterminate, recommend IDC UN-00A or UN-00B and an AK evaluation will be performed. Plastic and cellulose may be a part of this waste.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Inorganic Non-Metal	Glass Debris	S5000
S5122	RF-440	Glass
WIPP Status	WIPP Candidate	
Waste Description	Waste includes glass items such as bottles, vials, light bulbs, labware, glovebox windows, lead-taped sample vials, crushed and ground glass. The materials may be composed of glass, ceramic, leaded glass or quartz. Absorbent material (Oil-Dri®) may be present. Waste may also contain <50% by volume cellulosic, plastic, rubber and metal debris items (e.g., glovebox window frames and gaskets, cans, nuts, bolts, tools, bottles, leaded rubber gloves and aprons, cardboard, wood, filters, light ballasts). ⁷²	
Inner Packaging	½ or 1-gallon Poly Bottles / Poly bag / Poly bag, or O-Ring bag / Poly bag, or Poly bag / Poly bag Waste may be packaged in Fiberpaks. Waste (light bulbs, fluorescent tubes) may be placed directly into container.	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Cardboard Liner Drum may be present A small number of drums are lead-lined	
Box Preparation	Poly Box Bag / Cardboard Box Liner	
Primary Waste Parameter(s)	Other Inorganic Materials NOTE: <i>If leaded glass, then use a 50/50 ratio for the lead (Other Metals) and glass (Other Inorganic Materials).</i>	
Special Notes	Based on RTR results, waste may contain aerosol cans, mercury, prohibited liquids, sealed container >4 liters, sharp objects, or impenetrable objects/waste. ²⁴³ Waste may contain rubber gaskets on windows. Leaded glass appears to become denser as rotated because a larger cross section of glass must be penetrated. Waste may also contain lead-taped glass bottles and vials. ⁷⁷	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Inorganic Non-Metal	Inorganic Debris	S5000
S5100⁸⁹	RF-441	Raschig Rings, Unleached
WIPP Status	WIPP Candidate – Drums may also be characterized by CCP	
Waste Description	Borosilicate glass rings that were not cleaned after removal from the tank. Waste may also contain <50% by volume plastic, cellulose, and metal debris items, tank sludge, and absorbent material.	
Inner Packaging	Poly bag / Poly bag Poly bag / Poly bag / Fiberpak May be packaged in 1-gallon Poly bottles	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Some drums may have cardboard liner between drum bags.	
Box Preparation	Poly Box Bag / Cardboard Box Liner	
Primary Waste Parameter(s)	Other Inorganic Materials	
Special Notes	<p>Based on RTR results, waste may contain compressed gases (including aerosol cans), prohibited liquids, sealed containers >4 liters, sharp objects, or impenetrable waste.²⁴³ Waste may include small, broken glass pieces.</p> <p>If tank sludge/dried particulate (homogeneous solids) is noted, then identify as Inorganic Matrix. WMC S5100/IDC RF-441 can ONLY be used if >50% by volume debris.</p> <p>If >50% by volume homogeneous solids, recommend an IDC change. IDC UN-00A may be used if type of homogeneous is unknown.</p> <p>If indeterminate, recommend IDC UN-00A or UN-00B and an AK evaluation will be performed.</p> <p>An IDC change to RF-442 is not recommended because this is raschig ring debris waste also assigned to WSPF ID-RF-S5100-A.</p>	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Inorganic Non-Metal	Inorganic Debris	S5000
S5100⁸⁹	RF-442	Raschig Rings, Leached
WIPP Status	WIPP Candidate – Drums may also be characterized by CCP	
Waste Description	Borosilicate glass rings that were leached/cleaned after removal from the tanks. Waste may also contain <50% by volume plastic, cellulose, and metal debris items and absorbent material.	
Inner Packaging	Poly bag / Poly bag Poly bag / Poly bag / Fiberpak May be packaged in 1-gallon Poly bottles	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Some drums may have cardboard liner between drum bags.	
Box Preparation	Poly Box Bag / Cardboard Box Liner	
Primary Waste Parameter(s)	Other Inorganic Materials	
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids, sealed containers >4 liters, sharp objects, or impenetrable lead shielding.²⁴³</p> <p>Waste may include small, broken glass pieces.</p> <p>If tank sludge/dried particulate (homogeneous solids) is noted, then it should be considered as Inorganic Matrix. WMC S5100/IDC RF-442 can ONLY be used if >50% by volume debris.</p> <p>If >50% by volume homogeneous solids, recommend an IDC change. IDC UN-00A may be used if type of sludge is unknown.</p> <p>If indeterminate, recommend IDC UN-00A or UN-00B and an AK evaluation will be performed.</p> <p>An IDC change to RF-441 is not recommended because this is raschig ring debris waste also assigned to WSPF ID-RF-S5100-A.</p>	

Combustibles	Unknown/Other Organic Debris	S5000
S5390	RF-460	Washables, Rubber, Plastic
WIPP Status	WIPP Candidate	
Waste Description	Plastic and rubber waste destined for the washing facility in Building 776. The items were contaminated with acids or caustics, or solvents. The glove washer in the Building 776 Size Reduction Vault reduction was used to wash the waste and remove any surface contaminants. Waste may also contain any amount of cellulose.	
Inner Packaging	O-Ring bag / Poly bag Poly bag / Poly bag	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag	
Primary Waste Parameter(s)	Plastic (waste materials), Rubber	
Special Notes	<p>Based on RTR results, waste may contain impenetrable waste.²⁴³</p> <p>Leaded glovebox gloves and aprons may be in this waste. Leaded gloves and aprons should be assigned 100% Rubber per CBFO (WAP Table B3-1).</p>	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Combustibles	Leaded Gloves/Aprons	S5000
S5311	RF-463	Leaded Rubber Gloves and Aprons
WIPP Status	WIPP Candidate	
Waste Description	Primarily neoprene/Hypalon leaded glovebox gloves and leaded aprons.	
Inner Packaging	O-Ring bag / Poly bag	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Some drums may be lead-lined.	
Primary Waste Parameter(s)	Gloves and aprons are 100% rubber – assigned per CBFO (WAP Table B3-1)	
Special Notes	Based on RTR results, waste may contain prohibited liquids, sealed containers >4 liters (e.g., 30-gallon drum), or impenetrable waste. ²⁴³ Aprons are identifiable by shoulder harness rings. IDC 463 was replaced by IDC 339 in 1973. An IDC change to RF-339 is not recommended because this is leaded rubber waste also assigned to WSPF BN252.	

Combustibles	Organic Debris	S5000
S5300⁸⁹	RF-464	Benelex and Plexiglas
WIPP Status	WIPP Candidate	
Waste Description	Benelex is a densely laminated wood product. It was usually coated with fire retardant paint. Benelex came in 2 or 4 inch thick sheets. Plexiglas is a plastic sheeting 1/8 to 4-inch thick. Waste may also contain rubber or cellulosics (e.g., rubber window gaskets, surgeon's gloves, and wipes) but may only contain <50% by volume glass and metal debris items (e.g., leaded glass, lead shielding, and metal hardware).	
Inner Packaging	Poly bag / Poly bag Waste may be placed directly into drum.	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag/ Poly Drum Bag A cardboard liner may be present in some drums.	
Primary Waste Parameter(s)	Cellulosics (e.g., Benelex), plastic (waste materials) (e.g., Plexiglas)	
Special Notes	Based on RTR results, waste may contain prohibited liquids, sharp objects, or impenetrable waste. ²⁴³ Benelex is a cellulosic material and may have lead shielding (other metals) attached, and some of the hinges and handles may still be attached. The lead shielding was usually bolted to the Benelex so look for the bolts and nuts. This IDC was replaced by IDC RF-302 in late 1972.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Uncategorized Metal	Metal Debris with Lead	S5000
S5112	RF-48A	WETP Bin Program – Metal
WIPP Status	WIPP Candidate	
Waste Description	WETP Bin Program – Light Metal (IDCs RF-480 and RF-481)	
Inner Packaging	<p>Bagged waste was removed from IDC RF-480 and RF-481 drums for VE. Bags were breached for VE. After VE, waste was placed directly into bins. Waste may have been repackaged in poly bags after VE.</p> <p>Poly bag / Poly bag O-Ring bag / Poly bag</p>	
Bin Preparation	Wire mesh was placed in the bins (possibly on top and under the waste). Bins were then overpacked in SWBs.	
Primary Waste Parameter(s)	Iron-based metals/alloys, aluminum-based metals/alloys, other metals (e.g., lead)	
Special Notes	Verify protection from sharp objects. Metals usually have other waste such as plastic. This waste will likely contain lead.	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Uncategorized Metal	Metal Debris with Lead	S5000
S5112	RF-480	Non-special Source Metal
WIPP Status	WIPP Candidate	
Waste Description	Waste includes light metals such as iron, stainless steel, carbon steel, aluminum, copper, brass, bronze, and other light metals below copper on the periodic table. Waste may be in the form of gloveboxes, glovebox windows, furnaces, lathes, drill presses, ducting, piping, tubing, angle iron, tanks, downdraft tables, part-carriers, respirator filters, ultrasonic cleaners, mechanical parts, electrical parts, scrap metal, wire, cable, gauges, valves, planchettes, control panels, electronic instrumentation, vacuum sweepers, pumps, motors, railing, stairs, metal racks and trays, hotplates, empty metal produce and paint cans, carts, power tools, hand tools, chairs, desks, tables, typewriters, filing cabinets, crushed 55-gallon drums, lead cell batteries, aluminum foil, and light ballasts. Waste may also contain any amounts of lead (e.g., lead shielding, lead sheeting, scrap lead) but may only contain <50% by volume cellulose, plastic, rubber, glass, and other inorganic material debris items (e.g., wipes, paper, wood, coveralls, glass containers, beakers, raschig rings, light bulbs, rubber gaskets, surgeon's gloves, plastic tubing and piping, rubber respirator masks, leaded rubber gloves, lead tape, leaded rubber aprons, concrete). ⁷³	
Inner Packaging	Poly bag / Poly bag or O-Ring bag / Poly bag. Waste may be in Fiberpaks. Large items may be wrapped in plastic or placed directly into container and may have been size reduced to improve packaging efficiency. Smaller items (with or without plastic packaging) may be into drums or boxes.	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Some drums may be lead-lined (waste from americium lines).	
Box Preparation	Poly Box Bag / Cardboard Box Liner Some boxes may be lead-lined (waste from americium lines).	
Primary Waste Parameter(s)	Iron-based metals/alloys, aluminum-based metals/alloys, other metals (e.g., lead, copper, brass, bronze) NOTE: <i>When the type of metal cannot be determined, use iron-based metals/alloys waste parameter.</i> ¹⁴	
Special Notes	Based on RTR results, RF-480 waste packaged in drums or boxes may contain a wide variety of manufactured items which may contain PCB items (such as ballasts, capacitors, or transformers). ⁴⁹ Waste may also contain wet cell batteries (with prohibited liquids), compressed gases (including aerosol cans), mercury, prohibited liquids, sealed containers >4 liters, sharp objects, impenetrable objects or impenetrable lead shielding. ²⁴³ Some boxes contain dense metal cylinders some of which are impenetrable and some of which contain liquids. Lead cell batteries with liquids in excess of WAP limits, or whose contents cannot be verified, are prohibited from disposal at the WIPP facility. ³⁸ Small cans (1-gallon and smaller) of various liquids (including oil and paint remover) were reportedly found in individual boxes of MLLW. ¹¹⁸ An IDC change to RF-320, RF-321, or RF-481 is not recommended because these are all metal waste also assigned to WSPF BN296. Waste may include rubber respirator masks (as evidenced by grommets, snaps, and buckles as viewed by RTR). ⁶⁰ An AK or RTR SME evaluation is required for this condition. Recommend change to IDC RF-337 if >50% by volume rubber respirator masks/respirator filters.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Uncategorized Metal		Metal Debris with Lead	S5000
S5112	RF-481	Leached Non-special Source Metal	
WIPP Status	WIPP Candidate		
Waste Description	Waste includes light metals such as iron, stainless steel, carbon steel, aluminum, copper, brass, bronze, and other metals that were washed in hot water to remove surface contaminants such as acids or caustics. Waste may also contain any amount of lead (e.g., lead sheeting, lead pieces) but may only contain <50% by volume cellulosics, plastic, rubber, and glass debris items (e.g., wipes, paper, wood handles, plastic bottles, plastic tubing, glass containers, rubber gloves). ⁷³		
Inner Packaging	Poly bag / Poly bag O-Ring bag / Poly bag Waste may be in Fiberpaks A small number of drums may be lead-lined		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag A small number of drums may be lead-lined.		
Box Preparation	Plastic Box Liner / Cardboard Box Liner		
Primary Waste Parameter(s)	Iron-based metals/alloys, aluminum-based metals/alloys, other metals (e.g., lead, copper, brass, bronze) NOTE: <i>When the type of metal cannot be determined, use iron-based metals/alloys waste parameter.</i> ¹⁴		
Special Notes	Waste will likely contain lead. Based on RTR results, waste may contain light ballasts (which may contain PCBs), wet cell batteries (with prohibited liquids), compressed gases (including aerosol cans), prohibited liquids, sealed containers >4 liters, sharp objects, or impenetrable objects. ²⁴³ An IDC change to RF-320, RF-321, or RF-480 is not recommended because these are all metal waste also assigned to WSPF BN296.		

Lead/Cadmium Metal		Metal Debris with Lead	S5000
S5112	RF-488	Glovebox Parts w/Lead	
WIPP Status	WIPP Candidate		
Waste Description	Glass, lead sheeting, lead bricks, glovebox parts with lead sheeting, other metal parts		
Inner Packaging	O-Ring bag / Poly bag Poly bag / Poly bag – Packaged in boxes		
Box Preparation	Plastic Box Liner / Cardboard Box Liner		
Primary Waste Parameter(s)	Iron-based metals/alloys, other inorganic materials (e.g., glass), other metals (e.g., lead), rubber		
Special Notes	This IDC was created by RF in 1988 to segregate glovebox parts with lead. ¹⁵³		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Filters	Composite Filters	S5000
S5410	RF-490	HEPA Filters and CWS Filters
WIPP Status	WIPP Candidate	
Waste Description	Waste is primarily whole 24 × 24 × 12 inch HEPA filters. Pre-1976 waste includes CWS (Chemical Warfare Service) filters. Waste also includes Absolute 8 × 8-in glovebox filters, prefilters, insulation, and respirator filters. Filter media include asbestos type, fiberglass and paper types. Waste may also contain <50% by volume non-filter debris items (e.g., cardboard, rags, and plastic). 70	
Inner Packaging	Poly bag / Poly bag O-Ring bag / Poly bag The waste may also be packaged in a cardboard box	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Oil-Dri [®] was added to drums containing damp waste.	
Box Preparation	Poly Box Bag / Cardboard Box Liner Up to 50 pounds of Portland cement added to any box containing damp filters. A small number of boxes contain uncrushed HEPA filters (~12 per box).	
Primary Waste Parameter(s)	Filter media is either other inorganic material or cellulose. Insulation, fiberglass, and asbestos are other inorganic materials. NOTE: <i>Conservatively assign filter media in whole filters with wood frame as cellulose or when the type of media cannot be determined.</i> One type of CWS filter has a housing that is typically metal and looks like a coffee can without a lid or bottom and is conservatively assigned cellulose (90%) and iron-based metals/alloys (10%). HEPA filters with wood frames and aluminum mesh screens or baffles are cellulose (90% for frame and filter media) and aluminum-based metals/alloys (10% for screens and baffles). HEPA filters with wood frames and with asbestos baffles are cellulose (90% for frame and media) and other inorganic materials (10% for baffles). HEPA filters with metal frames and aluminum mesh screens or baffles are cellulose (10% for filter media), iron-based metals/alloys (85% for frame), and aluminum-based metals/alloys (5% for screens and baffles). HEPA filters with metal frames and asbestos baffles are cellulose (10% for filter media), iron-based metals/alloys (85% for frame), and other inorganic materials (5% for baffles). Respirator canisters (0.25 pounds) are aluminum-based metals/alloys (70%) and Cellulose (30%).	
Special Notes	Filters may be crushed prior to placing in box. Based on RTR results, waste may contain prohibited liquids, sealed containers >4 liters, sharp objects, or impenetrable waste. ²⁴³ Waste may contain light ballasts (which may contain PCBs). Filters highly contaminated with nitrate salts (e.g., >25% white crystalline material) should be handled with care. ¹² An IDC change to RF-328, RF-335, RF-338, RF-360, or RF-376 is not recommended because these are all filter/insulation waste also assigned to WSPF BN211.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Filters	Composite Filters	S5000
S5410	RF-491	Plenum Prefilters
WIPP Status	WIPP Candidate	
Waste Description	These are prefilters to the HEPA filters in the plenums.	
Inner Packaging	Poly bag / Poly bag	
Box Preparation	Poly Box Bag / Cardboard Box Liner	
Primary Waste Parameter(s)	Cellulosics, other inorganic materials (e.g., fiberglass) NOTE: <i>Conservatively assign filter media as cellulosics when the type of media cannot be determined.</i>	
Special Note	The thin metal wire in the prefilter is an insignificant contributor.	

Heterogeneous Debris Waste	Unknown/Other Heterogeneous Debris	S5000
S5490	BN-500	Newly Generated Debris (not BN-508)
WIPP Status	WIPP Candidate	
Waste Description	Heterogeneous non-PCB debris waste generated by AMWTP that is not BN-508 or BN-524. This IDC includes non-PCB waste generated in TSA-RE, Type II storage areas, Drum Repackaging Facility (DRF), Drum Treatment Facility (DTF), and waste characterization areas in WMF-634. It includes filters and waste repackaged in the Drum Waste Packaging Glovebox (DWPG) and Special Case Waste (SCW) and debris waste from the WMF-676 that is generated as a result of processing waste assigned IDCs not approved in RPT-TRUW-83. It may also include repackaged loose debris from breached containers that is not PCB contaminated. Waste may contain any type of debris waste (e.g., cloth, paper, plastics, glass, rubber, and metals debris). Waste may also contain <50% by volume soils or homogeneous solids (e.g., sludges).	
Inner Packaging	Waste may be double or triple bagged in small poly bags or waste may be direct loaded into the waste drum	
Drum Preparation	Up to two Poly Drum Bags	
Primary Waste Parameter(s)	TBD by RTR or VE	
Special Notes	Based on VE results, waste may contain sharp objects. ²⁴³ This IDC is assigned after confirmation of non-PCB status. PCB items or debris waste suspected to be contaminated with PCBs are assigned IDC BN-604. IDC BN-500 does not include: <ul style="list-style-type: none"> • Secondary waste generated from managing waste received under the AMWTP Offsite Waste Program (reference IDC BN-521 for offsite waste) • Non-PCB debris waste from Pad 1 and 2 (See BN-524). 	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Soils	Soil/Debris	S4000
S4200	BN-501	AMWTP PCB Soil
WIPP Status	WIPP Candidate	
Waste Description	Soils (natural geologic material ≤ 2.36 inches [60 millimeters]) generated during retrieval, characterization, treatment, packaging, storage, and other waste management operations conducted at the AMWTP that are or may be PCB contaminated. Also may include soils generated by AMWTP as a result of repackaging loose soil from breached containers that is suspect of being PCB contaminated as well as repackaged or intact containers of historically stored soils with insufficient AK information to assign a legacy IDC. Waste may also contain $<50\%$ by volume homogeneous solids or debris including natural geologic material (e.g., rocks) >2.36 inches (60 millimeters).	
Inner Packaging	Waste may be double or triple bagged in small poly bags or waste may be direct loaded into the waste drum.	
Drum Preparation	Up to two Poly Drum Bags.	
Primary Waste Parameter(s)	Soils/gravel.	
Special Notes	PCB waste with any observable liquid is prohibited from disposal at WIPP. Based on RTR results, waste may contain sharp objects or may be impenetrable. ²⁴³ Containers within this IDC are classified as PCB. MLLW PCB soil is identified as IDC BN-627. Case-by-case evaluation required to manage this soil as non-PCB soil (reference IDCs BN-522 and BN-626).	

Solidified Inorganics	Unknown/Other Homogeneous Solids	S3000
S3900	BN-505	Inorganic Homogeneous Solids
WIPP Status	WIPP Candidate	
Waste Description	Loose or cross contaminated inorganic homogeneous solids derived from historically stored waste (e.g., sludges, salts, ash, heels, special setups, or other process residual solids including absorbents) repackaged during retrieval, characterization, treatment, storage, and other waste management operations conducted at the AMWTP. Also may include inorganic homogeneous solids generated by AMWTP as a result of repackaging loose inorganic homogeneous solids from breached containers. Waste may include repackaged or intact containers of historically stored inorganic homogeneous solids waste with insufficient AK information to assign a legacy IDC. Waste may also contain $<50\%$ by volume debris (metal cans, plastic bottles, etc.) and soils.	
Inner Packaging	Waste may be packaged in small containers and double or triple bagged in small poly bags or waste may be direct loaded into the waste drum	
Drum Preparation	Up to two Poly Drum Bags	
Primary Waste Parameter(s)	Inorganic Matrix (e.g., sludges, cemented liquids), Other Inorganic Materials (e.g., absorbents, pyrochemical salts, graphite heels, SS&C heels)	
Special Notes	Based on VE results, waste may contain sealed containers > 4 liters or sharp objects. ²⁴³ Disposition of newly generated waste will be dependent on radioisotopic content.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics	Inorganic Particulate Absorbents	S3000
S3113	BN-507	Absorbed Aqueous Squeezants
WIPP Status	WIPP Candidate	
Waste Description	Aqueous squeezants from the supercompactor that have been absorbed onto inorganic particulate absorbent materials (e.g., Aquaset [®] , Aquaset II-G [®] or other approved inorganic absorbents).	
Inner Packaging	4-liter bottle / triple bagged into small poly bags	
Drum Preparation	Up to two Poly Drum Bags	
Primary Waste Parameter(s)	Inorganic Matrix	
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids. Based on VE results, waste may also contain mercury.²⁴³</p> <p>Aqueous liquid (excluding water soluble solvents such as acetone and methanol) from the Supercompactor (“squeezants”) that have been absorbed are included under this IDC. Aqueous squeezants are collected as a liquid but must be absorbed before assignment of IDC BN-507 and to be a WIPP candidate container.</p> <p>Reference IDC BN-515 for absorbed aqueous liquids other than squeezants.</p>	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490⁷⁹	BN-508	AMWTP Newly Generated Debris	
WIPP Status	WIPP Candidate		
Waste Description	This is debris waste generated in WMF-676 that is directly related to the S/C operations from IDCs approved in RPT-TRUW-83 as approved feed stock (e.g., debris from box lines). It includes TRU debris waste generated during waste management, maintenance, and clean-up operations performed in WMF-676 Zone 3 in direct support of S/C operations, including HEPA and prefilters generated from the WMF-676 ventilation systems. Waste also includes TRU debris from repackaging waste in DWPG and SCW with IDCs approved in RPT-TRUW-83. Waste may also contain <50% by volume homogeneous solids (e.g., absorbents, sludges) and soil.		
Inner Packaging	Waste may be double or triple bagged in small poly bags or waste may be direct loaded into the waste drum No inner packaging for Advanced Mixed Waste Treatment Facility (AMWTF) “silvers”		
Drum Preparation	Up to two Poly Drum Bags No drum bags for AMWTF “silvers”		
Primary Waste Parameter(s)	Iron-based metals/alloys, cellulose, plastic (waste materials), other inorganic materials, rubber, other metals, aluminum-based metals/alloys NOTE: <i>Drum style HEPA filters are 90% iron-based metals/alloys, 5% aluminum-based metals/alloys, 2.5% rubber, and 2.5% cellulose. Flanders Premier pre-filters are 80% other inorganic materials and 20% cellulose.</i> ¹³³		
Special Notes	Waste is a mixture of newly generated debris waste that could contain any types of debris feedstock waste. IDC BN-508 does not include waste generated outside WMF-676, waste generated in WMF-676 Zones 1 and 2, or waste generated in WMF-676 that is not directly related to the S/C operations or derived from IDCs not listed in RPT-TRUW-83. ¹⁸⁶ IDC BN-508 may not contain PCB items or be PCB contaminated waste (reference IDC BN-600). If >50% by volume S3000 (e.g., absorbent, sludge) or S4000 (e.g., soil), recommend a change to UN-00A or UN-00C as appropriate and an AK evaluation will be performed. A catch pan may be placed on the bottom of each drum prior to compaction without impacting the assigned IDC BN-508. The catch pan weighs between 7.6 and 9 pounds and is constructed of the same material as a standard 55-gallon (17C) drum (i.e., iron-based metals/alloys). ⁴²		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Organics		Absorbed Organic Liquids	S3000
S3114	BN-509	Absorbed Organic Liquids (Excluding Squeezants)	
WIPP Status	WIPP Candidate		
Waste Description	Organic liquids derived from waste containers that are not PCB contaminated and that were treated using an inorganic particulate absorbent material (e.g., Micro-Cel [®] E, Petroset II-G [®] , Aquaset II-G [®] , or other approved inorganic absorbents). The absorbed organic liquids include prohibited containerized liquids removed and absorbed at SCW. This also includes absorbed organic liquids from maintenance activities and spill cleanups.		
Inner Packaging	Waste may be direct loaded into waste drum or packaged into 4-liter bottle / triple bagged into small poly bags		
Drum Preparation	Rigid liner if waste direct loaded into waste drum Up to two Poly Drum Bags if waste packaged in 4-liter bottles		
Primary Waste Parameter(s)	Organic Matrix		
Special Notes	<p>Organic liquids (including water soluble solvents such as acetone and methanol) that have been absorbed are included under this IDC. Organic wastes that are collected as a liquid must be absorbed before assignment of IDC BN-509 and to be considered a WIPP candidate container.</p> <p>IDC BN-509 does not include debris items designed or designated for spill cleanup or absorption of organic liquids (e.g., rags or PIG[®] spill response pig/mat products, reference IDC BN-500).</p> <p>IDC BN-509 does not include absorbed organic squeezants generated from the supercompactor (reference IDC BN-514).</p> <p>IDC BN-509 does not include PCB contaminated absorbed organic liquids (reference IDC BN-605).</p>		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-510	Supercompacted Debris	
WIPP Status	WIPP Candidate		
Waste Description	All types of TRU debris waste that is compacted at the AMWTP and will be shipped to WIPP under WSPF BN510.		
Inner Packaging	All inner packaging is breached during compaction		
Drum Preparation	100-gallon product drums typically containing multiple compacted 55-gallon drums of feedstock debris (i.e., pucks) associated with the IDCs listed in RPT-TRU-30.		
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.		
Primary Waste Parameter(s)	Iron-based metals/alloys, cellulosics, plastic (waste materials), other inorganic materials, rubber, other metals, aluminum-based metals/alloys.		
Special Notes	<p>The puck includes catch pans (if used) as well as the compacted feed drum.⁴²</p> <p>Only those IDCs identified in RPT-TRUW-30 are authorized as feed to the supercompactor.⁶</p>		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Organics		Unknown/Other Homogeneous Solids		S3000
S3900	BN-511	PCB Organic Homogeneous Solids		
WIPP Status	WIPP Candidate			
Waste Description	Loose or cross contaminated organic homogeneous solids derived from historically stored waste (e.g., organic setups IDCs RF-003 or RF-743) repackaged during retrieval, characterization, treatment, storage, and other waste management operations conducted at the AMWTP that may or are contaminated with PCBs. Also may include homogeneous solids generated by AMWTP as a result of repackaging loose homogeneous solids from breached containers that are suspected of being PCB contaminated. It also includes repackaged or intact containers of historically stored homogeneous solids waste with insufficient AK information to assign a legacy IDC. Waste may also contain <50% by volume soils (e.g., interstitial soil) or debris (metal cans, plastic bottles, etc).			
Inner Packaging	Waste may be packaged in small containers and double or triple bagged in small poly bags or waste may be direct loaded into the waste drum			
Drum Preparation	Up to two Poly Drum Bags			
Primary Waste Parameter(s)	Organic Matrix			
Special Notes	PCB waste with any observable liquid is prohibited from disposal at WIPP. Organic waste derived from IDC RF-003 or IDC RF-743 is PCB waste. Loose homogeneous solid waste is assumed to be PCB contaminated. A case-by-case evaluation is required to manage the waste as non-PCB (reference IDC BN-513).			

Solidified Organics		Unknown/Other Homogeneous Solids		S3000
S3900	BN-513	Non-PCB Organic Homogeneous Solids		
WIPP Status	WIPP Candidate			
Waste Description	Loose or cross-contaminated organic homogeneous solids derived from historically stored waste (e.g., organic sludges) repackaged during retrieval, characterization, treatment, storage, and other waste management operations conducted at the AMWTP. Also may include homogeneous solids generated by AMWTP as a result of repackaging loose organic homogeneous solids from breached containers. Waste may also contain <50% by volume debris (metal cans, plastic bottles, etc.) or soils.			
Inner Packaging	Waste may be packaged in small containers and double or triple bagged in small poly bags or waste may be direct loaded into the waste drum			
Drum Preparation	Up to two Poly Drum Bags			
Primary Waste Parameter(s)	Organic Matrix			
Special Notes	Containers within this IDC are not classified as PCB. IDC BN-513 does not include PCB contaminated organic homogeneous solids (reference IDC BN-511).			

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Organics		Absorbed Organic Liquids	S3000
S3114	BN-514	Absorbed Organic Squeezants	
WIPP Status	WIPP Candidate		
Waste Description	Organic squeezants from the supercompactor that have been absorbed onto inorganic particulate absorbent materials (e.g., Micro-Cel [®] E, Petroset II-G [®] , Aquaset [®] , Aquaset II-G [®] , or other approved inorganic absorbents).		
Inner Packaging	4-liter bottle / triple bagged into small poly bags		
Drum Preparation	Up to two Poly Drum Bags		
Primary Waste Parameter(s)	Organic Matrix		
Special Notes	Based on VE results, waste may contain mercury. ²⁴³ Organic squeezants (including water soluble solvents such as acetone and methanol) that have been absorbed are included under this IDC. Organic liquids from the supercompactor must be absorbed before assignment of IDC BN-514 and to be considered a WIPP candidate container. Reference IDC BN-509 for absorbed organic liquids other than squeezants.		

Solidified Inorganics		Inorganic Particulate Absorbents	S3000
S3113	BN-515	Absorbed Aqueous Liquids (Excluding Squeezants)	
WIPP Status	WIPP Candidate		
Waste Description	Aqueous liquids derived from waste containers that were treated using an inorganic particulate absorbent material (e.g., Aquaset II-G [®] , Micro-Cel [®] E, or other approved inorganic absorbents). The absorbed aqueous liquids include prohibited containerized liquids removed and absorbed at SCW. This also includes absorbed aqueous liquids from maintenance activities and spill cleanups.		
Inner Packaging	Waste may be direct loaded into waste drum or packaged into 4-liter bottle / triple bagged into small poly bags		
Drum Preparation	Rigid liner if waste direct loaded into waste drum Up to two Poly Drum Bags if waste packaged in 4-liter bottles		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	Aqueous liquid (excluding water soluble solvents such as acetone and methanol) that have been absorbed are included under this IDC. Aqueous liquid must be absorbed before assignment of IDC BN-515 and to be considered a WIPP candidate container. IDC BN-515 does not include debris items designed or designated for spill cleanup or absorption of aqueous liquids (e.g., rags or PIG [®] spill response pig/mat products, reference IDC BN-500). IDC BN-515 does not include absorbed aqueous squeezants from the supercompactor (reference IDC BN-507).		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Combustibles	Debris Waste	S5000
S5000	BW-515	Plastics, Paper, Cloth, Etc.
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Description	<i>Not currently summarized</i>	
Inner Packaging	<i>Not currently summarized</i>	
Drum Preparation	<i>Not currently summarized</i>	
Primary Waste Parameter(s)	<i>Not currently summarized</i>	
Special Notes	TBD	

Solidified Inorganics	Unknown/Other Homogeneous Solids	S3000
S3900	BN-516	AMWTP Inorganic Homogeneous Solids
WIPP Status	WIPP Candidate	
Waste Description	Inorganic homogeneous solids generated from general operation and maintenance activities conducted at the AMWTP. The primary process is cleanup of the 1st floor of the facility and cleanup of the supercompactor glovebox area. The waste consists of dust build up material on the 1st floor and a mixture of paint flakes, solid waste and dried squeezants material at the supercompactor glovebox area. Solids are also generated as metal oxides from plasma cutting operations and collected during clean up of the BROKK pedestal area. Waste may also contain <50% by volume debris that cannot be practically separated from the waste.	
Inner Packaging	Waste may be packaged in small containers and double or triple bagged in small poly bags	
Drum Preparation	Up to two Poly Drum Bags	
Primary Waste Parameter(s)	Inorganic Matrix (e.g., solids), Other Inorganic Materials (e.g., paint flakes, dried squeezants, floor sweepings, dust)	
Special Notes	Disposition of newly generated waste will be dependent on radioisotopic content. BN-516 is not derived from historically stored S3000 waste, (see BN-505).	

Uncategorized Metal	Debris Waste	S5000
S5000	BW-516	Steel, Al, Electrical Devices-Handheld
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Description	<i>Not currently summarized</i>	
Inner Packaging	<i>Not currently summarized</i>	
Drum Preparation	<i>Not currently summarized</i>	
Primary Waste Parameter(s)	<i>Not currently summarized</i>	
Special Notes	TBD	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Uncategorized Metal	Debris Waste	S5000
S5000	BW-517	Heavy Metals, Steel, Al, Brass
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Description	<i>Not currently summarized</i>	
Inner Packaging	<i>Not currently summarized</i>	
Drum Preparation	<i>Not currently summarized</i>	
Primary Waste Parameter(s)	<i>Not currently summarized</i>	
Special Notes	TBD	

N/A	N/A	N/A
N/A	BN-518	TRU Supercompactor Squeezants
WIPP Status	WIPP Candidate (after absorption)	
Waste Description	Inorganic or organic liquids generated as squeezants from the supercompaction of feed stock wastes.	
Inner Packaging	4-liter bottle / triple bagged into small poly bags	
Drum Preparation	no liner drum bag	
Primary Waste Parameter(s)	N/A	
Special Notes	TRU liquids require absorption for consideration as a WIPP candidate for disposal. After absorption, SCW assigns IDC BN-507 if inorganic/aqueous or IDC BN-514 if organic.	

N/A	N/A	N/A
N/A	BN-519	TRU SDOP to Supercompactor
WIPP Status	N/A - Overpack Container	
Waste Description	All types of debris packaged in 55-gallon drums or larger that have been over-packed into a box or placed on a pallet for processing in AMWTF.	
Inner Packaging	All inner packaging is breached during size reduction or compaction.	
Box Preparation	No liners	
Primary Waste Parameter(s)	N/A – Overpack container	
Special Notes	<p>IDC BN-519 is reserved to track boxes packaged with characterized debris drums for processing in AMWTF and is not to be used for characterizing waste.</p> <p>Six-Drum Overpack (SDOP) is a six-drum overpack wood box, EMOP is an eight-55-gallon drum metal pallet, and an SMOP is a six-85-gallon drum metal pallet. Only those IDCs identified in RPT-TRUW-83 are authorized as feed to the supercompactor and used as SDOP, EMOP, or SMOP inner container feedstock.^{6, 186}</p>	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-520	TRU PCB Secondary Debris Generated from Offsite Waste	
WIPP Status	WIPP Candidate		
Waste Description	Heterogeneous PCB secondary debris generated from characterization, treatment, storage, and other waste management operations conducted at the AMWTP of offsite wastes that are not profiled by AMWTP for shipment to WIPP. The debris may include PCB items, PPE, tarps, tools, PIG [®] spill response pig/mat products, HEPA filters, smear paper, etc. May contain <50% by volume non-debris waste such as soil and/or homogeneous solids.		
Packaging	Waste may be double or triple bagged in small poly bags or waste may be direct loaded into the waste drum		
Drum Preparation	Up to two Poly Drum Bags		
Primary Waste Parameter(s)	TBD by RTR or VE		
Special Notes	<p>PCB waste with any observable liquid is prohibited from disposal at WIPP. Based on RTR results, waste may contain sharp objects.²⁴³</p> <p>This IDC applies only to secondary waste generated from waste that is PCB waste and was received under the AMWTP Offsite Waste Program that will be profiled by CCP.</p> <p>IDC BN-520 does not include PCB contaminated debris waste generated during the cleanup spills or leaks from SDA containers (e.g., IDCs SD-703, SD-704, SD-705, and SD-706, reference BN-604).</p>		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-521	TRU Secondary Debris Generated from Offsite Waste	
WIPP Status	WIPP Candidate		
Waste Description	Heterogeneous secondary debris generated from characterization, treatment, storage, and other waste management operations conducted at the AMWTP of offsite wastes that are not profiled by AMWTP for shipment to WIPP. The debris may include PPE, tarps, tools, PIG [®] spill response pig/mat products, HEPA filters, smear paper, etc. May contain <50% by volume non-debris waste such as soil and/or homogeneous solids.		
Packaging	Waste may be double or triple bagged in small poly bags or waste may be direct loaded into the waste drum		
Drum Preparation	Up to two Poly Drum Bags		
Primary Waste Parameter(s)	TBD by RTR or VE		
Special Notes	This IDC applies only to secondary waste generated from waste that is not PCB waste and was generated as a result of managing waste received under the AMWTP Offsite Waste Program that will be profiled by CCP.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Soils	Soil/Debris	S4000
S4200	BN-522	AMWTP Non-PCB Soil
WIPP Status	WIPP Candidate	
Waste Description	Soils (natural geologic material ≤ 2.36 inches [60 millimeters]) generated during retrieval, characterization, treatment, packaging, storage, and other waste management activities conducted at the AMWTP that are not PCB contaminated. Also may include soils generated by AMWTP as a result of repackaging loose non-PCB soil from breached containers. Waste may include repackaged or intact containers of historically stored soils with insufficient AK information to assign a legacy IDC. Waste may also contain $<50\%$ by volume homogeneous solids or debris including natural geologic material (e.g., rocks) >2.36 inches (60 millimeters).	
Inner Packaging	Waste may be double or triple bagged in small poly bags or waste may be direct loaded into the waste drum	
Drum Preparation	Up to two Poly Drum Bags	
Primary Waste Parameter(s)	Soils/gravel	
Special Notes	Based on RTR results, waste may be impenetrable. ²⁴³ Containers within this IDC are classified as non- PCB. MLLW non-PCB soil is identified as IDC BN-626. IDC BN-522 does not include soil that may be PCB contaminated (reference IDCs BN-501 and BN-627).	

Heterogeneous Debris Waste	Unknown/Other Heterogeneous Debris	S5000
S5490	BN-523	Pad 1 Cells 1 and 2 PCB Debris
WIPP Status	WIPP Candidate	
Waste Description	Heterogeneous debris waste generated during repackaging of loose waste within Cells 1 and 2 of Pad 1 that may be commingled with PCB waste (e.g., homogeneous solids; interstitial soil; PCB liquids [e.g., oily liquids], or leaking PCB items including capacitors, transformers, electric motors, or hydraulic equipment). Waste may contain any type of debris waste (e.g., cloth, paper, plastics, glass, rubber and metal debris). Waste may also contain $<50\%$ by volume soils or homogeneous solids (e.g., sludges).	
Inner Packaging	Waste may be double or triple bagged in small poly bags or waste may be direct loaded into the waste drum	
Drum Preparation	Up to two Poly Drum Bags	
Primary Waste Parameter(s)	TBD by RTR or VE	
Special Notes	Loose homogeneous solids, interstitial soils, and oily liquids are assumed to be PCB contaminated. Reference IDC BN-524 for Cells 1 and 2 of Pad 1 heterogeneous debris waste that is not commingled with PCB waste or interstitial soil.	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-524	Pad 1 Cells 1 and 2 Non-PCB Debris	
WIPP Status	WIPP Candidate		
Waste Description	Heterogeneous debris waste generated during repackaging of loose waste within Cells 1 and 2 of Pad 1 that is commingled with non-RF debris but is not commingled with PCB waste (see BN-523). Waste includes intact containers and repackaged containers of debris waste historically stored within Cells 1 and 2 of Pad 1 with insufficient AK information to assign a legacy IDC. Waste may contain any type of debris waste (e.g., cloth, paper, plastics, glass, rubber and metals debris). Waste may also contain <50% by volume non-interstitial soils.		
Inner Packaging	Waste may be double or triple bagged in small poly bags or waste may be direct loaded into the waste drum		
Drum Preparation	Up to two Poly Drum Bags		
Primary Waste Parameter(s)	TBD by RTR or VE		
Special Notes	IDC BN-524 does not include Cells 1 and 2 of Pad 1 heterogeneous debris that may be commingled with PCB waste (reference IDC BN-523).		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-525	P/U-listed Lab Non-PCB Debris Waste	
WIPP Status	WIPP Candidate		
Waste Description	Secondary waste generated in the laboratory from analyzing TRU waste samples that are characterized with P and/or U-listed HWNs. Waste may also contain <50% by volume homogeneous solids including absorbed/solidified laboratory extraction liquids, sample residues (leached solids remaining after extraction), and returned unused sample material. This waste was generated at the analytical laboratory located at RWMC and operated by AMWTP.		
Inner Packaging	See INST-OI-24 ¹¹⁶		
Drum Preparation	See INST-OI-24 ¹¹⁶		
Primary Waste Parameter(s)	Cellulosics, plastic, other inorganic materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	WMC S5490/IDC BN-525 can only be used if contaminated laboratory waste is >50% by volume debris. If laboratory waste is >50% homogeneous solids, recommend IDC change to BN-602 IDC BN-525 containers that are not destined for disposal at WIPP (e.g., MLLW) are subject to the Land Disposal Restriction (LDR) program requirements. ²⁴² As a result, mixtures of debris and non-debris waste cannot be classified as debris if the waste generated was the result of intentional mixing of debris and non-debris waste at the laboratory (reference 40 CFR 268.2). A case-by-case evaluation must be conducted for all MLLW BN-525 waste containers. Reference IDC BN-597 for laboratory debris waste that is or may be contaminated with PCBs		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-526	Lab PCB Debris Waste (not P/U-listed)	
WIPP Status	WIPP Candidate		
Waste Description	Secondary waste generated in the laboratory from analyzing TRU waste samples. This waste includes debris waste (e.g., beakers, vials) that is or may be contaminated with PCBs. Waste may also contain <50% by volume homogeneous solids including absorbed/solidified laboratory extraction liquids, sample residues (leached solids remaining after extraction), and returned unused sample material. This waste is generated at the analytical laboratory located at RWMC and operated by AMWTP.		
Inner Packaging	See INST-OI-24 ¹¹⁶		
Drum Preparation	See INST-OI-24 ¹¹⁶		
Primary Waste Parameter(s)	Cellulosics, plastic, other inorganic materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	<p>PCB waste with any observable liquid is prohibited from disposal at WIPP.</p> <p>WMC S5490/IDC BN-526 can only be used if contaminated laboratory waste is >50% by volume debris.</p> <p>If laboratory waste is >50% homogeneous solids, recommend IDC change to BN-603.</p> <p>Any debris waste generated as the result of analyzing samples of PCB contaminated waste (e.g., IDCs RF-003, BC-203, BN-604, BN-605, RF-743, and RF-746) is PCB waste. PCB waste is prohibited from supercompaction (see INST-FOI-17, Facility Visual Examination Operations).</p> <p>IDC BN-526 containers that are not destined for disposal at WIPP (e.g., MLLW) are subject to the Land Disposal Restriction (LDR) program requirements.²⁴² As a result, mixtures of debris and non-debris waste cannot be classified as debris if the waste generated was the result of intentional mixing of debris and non-debris waste at the laboratory (reference 40 CFR 268.2). A case-by-case evaluation must be conducted for all MLLW BN-526 waste containers.</p> <p>Reference IDC BN-527 for laboratory debris waste that is not contaminated with PCBs.</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	IC-526	INTEC Laboratory PCB Debris Waste	
WIPP Status	WIPP Candidate		
Waste Description	Secondary waste generated in the laboratory from analyzing TRU waste samples. This waste includes debris waste (e.g., beakers, vials) that is or may be contaminated with PCBs. Waste may also contain <50% by volume homogeneous solids including absorbed/solidified laboratory extraction liquids, sample residues (leached solids remaining after extraction), and returned unused sample material. This waste was generated at the analytical laboratory located at INTEC. ^{223, 274}		
Inner Packaging	One or more plastic bags (e.g., polyethylene bag or Ziploc-type inner bag with a polyethylene bag over it), 5-gallon cans, small glass or plastic vials and/or one gallon glass or plastic bottles. The containers may contain absorbent. Polyethylene bags may be taped to form a seal. ²⁷⁴		
Drum Preparation	No Drum Bag. May or may not include a 10 or 90 mil polyethylene liner. ²⁷⁴		
Primary Waste Parameter(s)	Cellulosics, Plastic, Other Inorganic Materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	<p>PCB waste with any observable liquid is prohibited from disposal at WIPP.</p> <p>Laboratory waste contains waste that was generated as a result of the analysis of INTEC waste that may contain or may have been derived from unused hydrofluoric acid product (HWN U134). U134 waste with any observable liquid is prohibited from disposal at WIPP. Based on RTR results, waste may contain prohibited liquids. ²⁴³</p> <p>WMC S5490/IDC IC-526 can only be used if contaminated laboratory waste is >50% by volume debris.</p> <p>If laboratory waste is >50% homogeneous solids, recommend IDC change to IC-603.</p> <p>Any debris waste generated as of the result of analyzing samples of PCB contaminated waste (e.g., IDCs RF-003, BC-203, BN-604, BN-605, RF-743, and RF-746) is PCB waste. PCB waste is prohibited from supercompaction (see INST-FOI-17, Facility Visual Examination Operations).</p> <p>IDC IC-526 containers that are not destined for disposal at WIPP (e.g., MLLW) are subject to the Land Disposal Restriction (LDR) program requirements. ²⁴² As a result, mixtures of debris and non-debris waste cannot be classified as debris if the waste generated was the result of intentional mixing of debris and non-debris waste at the laboratory (reference 40 CFR 268.2). A case-by-case evaluation must be conducted for all MLLW IC-526 waste containers.</p> <p>Reference IDC IC-527 for laboratory debris waste that is not contaminated with PCBs.</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	IW-526	Laboratory PCB Debris Waste	
WIPP Status	WIPP Candidate		
Waste Description	Secondary waste generated in the laboratory from analyzing TRU waste samples. This waste includes debris waste (e.g., beakers, vials) that is or may be contaminated with PCBs. Waste may also contain <50% by volume homogeneous solids including absorbed/solidified laboratory extraction liquids, sample residues (leached solids remaining after extraction), and returned unused sample material. This waste was generated at the analytical laboratory located at RWMC and operated by CH2M-WG. ^{223, 224, 274}		
Inner Packaging	One or more plastic bags (e.g., polyethylene bag or Ziploc-type inner bag with a polyethylene bag over it), 5-gallon cans, small glass or plastic vials and/or one gallon glass or plastic bottles. The containers may contain absorbent. Polyethylene bags may be taped to form a seal. ²⁷⁴		
Drum Preparation	No Drum Bag. May or may not include a 10 or 90 mil polyethylene liner. ²⁷⁴		
Primary Waste Parameter(s)	Cellulosics, plastic, other inorganic materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	<p>PCB waste with any observable liquid is prohibited from disposal at WIPP.</p> <p>Laboratory waste contains waste that was generated as a result of the analysis of waste that may contain or may have been derived from unused hydrofluoric acid product (HWN U134). U134 waste with any observable liquid is prohibited from disposal at WIPP.</p> <p>WMC S5490/IDC IW-526 can only be used if contaminated laboratory waste is >50% by volume debris.</p> <p>If laboratory waste is >50% by volume homogeneous solids, recommend IDC change to IW-603.</p> <p>Any debris waste generated as of the result of analyzing samples of PCB contaminated waste (e.g., IDCs RF-003, BC-203, BN-604, BN-605, RF-743, and RF-746) is PCB waste. PCB waste is prohibited from supercompaction (see INST-FOI-17, Facility Visual Examination Operations).</p> <p>IDC IW-526 containers that are not destined for disposal at WIPP (e.g., MLLW) are subject to the LDR program requirements. ²⁴² As a result, mixtures of debris and non-debris waste cannot be classified as debris if the waste generated was the result of intentional mixing of debris and non-debris waste at the laboratory (reference 40 CFR 268.2). A case-by-case evaluation must be conducted for all MLLW IW-526 waste containers.</p> <p>Reference IDC IW-527 for laboratory debris waste that is not PCB contaminated.</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-527	Lab Non-PCB Debris Waste (not P/U-listed)	
WIPP Status	WIPP Candidate		
Waste Description	Secondary waste generated in the laboratory from analyzing TRU waste samples. This waste includes debris waste (e.g., beakers, vials) that is not contaminated with PCBs. Waste may also contain <50% by volume homogeneous solids including absorbed/solidified laboratory extraction liquid, sample residues (leached solids remaining after extraction), and returned unused sample material. This waste was generated at the analytical laboratory located at RWMC and operated by AMWTP.		
Inner Packaging	See INST-OI-24 ¹¹⁶		
Drum Preparation	See INST-OI-24 ¹¹⁶		
Primary Waste Parameter(s)	Cellulosics, plastic, other inorganic materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	WMC S5490/IDC BN-527 can only be used if contaminated laboratory waste is >50% by volume debris. If laboratory waste is >50% homogeneous solids, recommend IDC change to BN-599. IDC BN-527 containers that are not destined for disposal at WIPP (e.g., MLLW) are subject to the LDR program requirements. ²⁴² As a result, mixtures of debris and non-debris waste cannot be classified as debris if the waste generated was the result of intentional mixing of debris and non-debris waste at the laboratory (reference 40 CFR 268.2). A case-by-case evaluation must be conducted for all MLLW BN-527 waste containers. Reference IDC BN-526 for laboratory debris waste that is or may be contaminated with PCBs.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	IC-527	Laboratory Non-PCB Debris Waste	
WIPP Status	WIPP Candidate		
Waste Description	Secondary waste generated in the laboratory from analyzing TRU waste samples. This waste includes debris waste (e.g., beakers, vials) that is not contaminated with PCBs. Waste may also contain <50% by volume homogeneous solids including absorbed/solidified laboratory extraction liquid, sample residues (leached solids remaining after extraction), and returned unused sample material. This waste was generated at the analytical laboratory located at INTEC. ^{223, 274}		
Inner Packaging	One or more plastic bags (e.g., polyethylene bag or Ziploc-type inner bag with a polyethylene bag over it), 5-gallon cans, small glass or plastic vials and/or one gallon glass or plastic bottles. The containers may contain absorbent. Polyethylene bags may be taped to form a seal. ²⁷⁴		
Drum Preparation	No Drum Bag. May or may not include a 10 or 90 mil polyethylene liner. ²⁷⁴		
Primary Waste Parameter(s)	Cellulosics, plastic, other inorganic materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Laboratory waste contains waste that was generated as a result of the analysis of waste that may contain or may have been derived from unused hydrofluoric acid product (HWN U134). U134 waste with any observable liquid is prohibited from disposal at WIPP. WMC S5490/IDC IC-527 can only be used if contaminated laboratory waste is >50% by volume debris. If laboratory waste is >50% homogeneous solids, recommend IDC change to IC-603. Reference IDC IC-526 for laboratory debris waste that is or may be contaminated with PCBs.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	IW-527	Laboratory Non-PCB Debris Waste	
WIPP Status	WIPP Candidate		
Waste Description	Secondary waste generated in the laboratory from analyzing TRU waste samples. This waste includes debris waste (e.g., beakers, vials) that is not contaminated with PCBs. Waste may also contain <50% by volume homogeneous solids including absorbed/solidified laboratory extraction liquid, sample residues (leached solids remaining after extraction), and returned unused sample material. This waste was generated at the analytical laboratory located at RWMC and operated by CH2M-WG. ^{223, 225, 274}		
Inner Packaging	One or more plastic bags (e.g., polyethylene bag or Ziploc-type inner bag with a polyethylene bag over it), 5-gallon cans, small glass or plastic vials and/or one gallon glass or plastic bottles. The containers may contain absorbent. Polyethylene bags may be taped to form a seal. ²⁷⁴		
Drum Preparation	No Drum Bag. May or may not include a 10 or 90 mil polyethylene liner. ²⁷⁴		
Primary Waste Parameter(s)	Cellulosics, plastic, other inorganic materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Laboratory waste contains waste that was generated as a result of the analysis of waste that may contain or may have been derived from unused hydrofluoric acid product (HWN U134). U134 waste with any observable liquid is prohibited from disposal at WIPP. WMC S5490/IDC IW-527 can only be used if contaminated laboratory waste is >50% by volume debris. If laboratory waste is >50% by volume homogeneous solids, recommend IDC change to IW-603. Reference IDC IW-526 for laboratory debris waste that is or may be contaminated with PCBs.		

N/A	N/A	N/A
N/A	BN-528	TRU PCB Liquids
WIPP Status	WIPP Candidate (after absorption)	
Waste Description	TRU liquids generated during retrieval, characterization, or treatment operations (e.g., removal of small containers of prohibited liquid or collection of liquids during retrieval) that may contain PCBs.	
Packaging	Not currently available	
Drum Preparation	Not currently available	
Primary Waste Parameter(s)	N/A	
Special Notes	An IDC change to IDC BN-529 is allowed if the analytical results confirm that suspect PCB waste is not PCB waste. IDC BN-528 does not include PCB contaminated liquids generated during decanting operations in DTF (reference BN-605 for absorbed PCB liquids from decanting operations). Treatment of PCB liquids is not authorized for this IDC under the approved AMWTP RBDA. Concurrence by EPA must be obtained prior to absorption.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	BN-529	TRU non-PCB Liquids
WIPP Status	WIPP Candidate (after absorption)	
Waste Description	TRU liquids generated during retrieval, characterization, or treatment operations (e.g., removal of small containers of prohibited liquid or collection of liquids during retrieval) verified to be non-PCB waste.	
Packaging	Not currently available	
Drum Preparation	Not currently available	
Primary Waste Parameter(s)	N/A	
Special Notes	BN-529 does not include squeezants generated during supercompaction (reference IDC BN-518). IDC BN-529 does not include TRU liquids generated during decanting operations in DTF (reference IDC BN-509 for absorbed organic liquids from decanting operations and IDC BN-515 for absorbed aqueous liquids from decanting operations).	

N/A	N/A	N/A
N/A	BN-530	MLLW Non-combustible Liquid
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Free flowing liquid without BTU content.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	TBD	

Inorganic Non-Metal	Debris Waste	S5000
S5000	MO-530	Compacted Waste
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Description	<i>Not currently summarized</i>	
Inner Packaging	<i>Not currently summarized</i>	
Drum Preparation	<i>Not currently summarized</i>	
Primary Waste Parameter(s)	<i>Not currently summarized</i>	
Special Notes	TBD	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	BN-531	LLW Combustible Liquid
WIPP Status	LLW - Not a WIPP Candidate	
Waste Description	Waste includes shredder oil and BROKK oil (other than BROKK pedestal oil, BN-534), and other oil determined to be LLW.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	TBD	

N/A	N/A	N/A
N/A	BN-534	Organic Liquid from Maintenance Activities
WIPP Status	WIPP Candidate (after absorption)	
Waste Description	This waste includes non-PCB contaminated organic liquids generated during AMWTP maintenance operations (e.g., draining the Brokk pedestal).	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	TBD	

N/A	N/A	N/A
N/A	BN-535	MLLW Combustible Liquid
WIPP Status	MLLW - Not a WIPP Candidate	
Waste Description	Free flowing liquid with BTU content. Waste includes oil determined to be MLLW. Does not include LLW combustible liquid (BN-531) and BROKK pedestal oil (BN-534).	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	TBD	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Lead/Cadmium Metal	Debris Waste	S5000
S5000	MO-535	Compacted Waste/Lead
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Description	<i>Not currently summarized</i>	
Inner Packaging	<i>Not currently summarized</i>	
Drum Preparation	<i>Not currently summarized</i>	
Primary Waste Parameter(s)	<i>Not currently summarized</i>	
Special Notes	TBD	

Heterogeneous Debris Waste	Unknown/Other Heterogeneous Debris	S5000
S5490	BN-536	TRU Empty Containers with PCBs
WIPP Status	WIPP Candidate	
Waste Description	Empty cargo containers, boxes, 55-gallon drums or 83/85-gallon overpacks generated during the retrieval, repack, or treatment processes that may contain PCBs. ¹¹⁶	
Inner Packaging	N/A	
Drum Preparation	N/A	
Primary Waste Parameter(s)	Iron-Based Metals/Alloys, (Cellulosics for wooden boxes)	
Special Notes	Treatment (e.g., supercompaction) not authorized for this IDC (PCBs). An IDC change to IDC BN-537 is allowed for empty cargos if the analytical results confirm that suspect PCB waste is not PCB waste.	

Heterogeneous Debris Waste	Unknown/Other Heterogeneous Debris	S5000
S5490	BN-537	TRU Empty Containers
WIPP Status	WIPP Candidate	
Waste Description	Empty cargo containers, boxes, 55-gallon drums or 83/85-gallon overpacks generated during the retrieval, repack, or treatment process verified to be non-PCB waste. ¹¹⁶	
Inner Packaging	N/A	
Drum Preparation	N/A	
Primary Waste Parameter(s)	Iron-Based Metals/Alloys, (Cellulosics for wooden boxes)	
Special Notes	TBD	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-538	Oversized Debris Items From Supercompactor Facility	
WIPP Status	WIPP Candidate		
Waste Description	Oversized debris waste items that are transferred out of the facility via the shredder chute. Examples of oversized waste items include hardened metals, milling tables, and large diameter solid bars. The debris items may also include large tools or equipment from the Facility. The waste also includes shredded boxes (wooden and steel) used as filler material. The waste may include gloves, wipes, plastic, PPE, bag cutters, tape, and sleeve stub generated during the packaging operations.		
Inner Packaging	Debris items are wrapped in plastic.		
Box Preparation	Metal shredder box with docking sleeve		
Primary Waste Parameter(s)	Iron-Based Metals/Alloys, Cellulosics NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Shredded boxes are used as “packaging” to fill void volume. This waste does not include items that contain oil filled equipment or waste that does not meet the definition of debris per 40 CFR 268.2 (e.g., lead acid batteries, elemental lead). Oversized debris waste items include only those IDCs identified in RPT-TRUW-83 that are authorized as feed to the supercompactor.		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-539	TRU Radioactive Only Debris Waste	
WIPP Status	WIPP Candidate		
Waste Description	Heterogeneous debris waste generated in WMF-676 from the treatment of RCRA empty containers including shredded boxes constructed of metal, wood, and fiber glassed reinforced plywood. Waste may also include associated PPE, bagging, leather gloves, wipes, and cutting tools.		
Inner Packaging	<i>Not currently summarized</i>		
Drum/Box Preparation	<i>Not currently summarized</i>		
Primary Waste Parameter(s)	Iron-based metals/alloys, cellulosics, plastic (waste materials)		
Special Notes			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-540	Oversized Debris Items From Supercompactor Facility	
WIPP Status	WIPP Candidate		
Waste Description	Oversized debris waste items from boxed waste that are packaged and transferred out of the boxlines because they are too large or cannot be size reduced for supercompaction. Examples of oversized waste items include hardened metals, milling tables, and large diameter solid bars. The debris items may also include large tools or equipment from the Facility. The waste may include gloves, wipes, plastic, and PPE generated during the packaging operations. May contain <50% non-debris.		
Inner Packaging	TBD		
Box Preparation	TBD		
Primary Waste Parameter(s)	Iron-Based Metals/Alloys, Cellulosics, Any amount of other debris waste parameters may be present.		
Special Notes	Oversized debris waste items include only those IDCs identified in RPT-TRUW-83 that are authorized as feed to the supercompactor.		

Heterogeneous Debris Waste		Debris Waste	S5000
S5000	MO-540	Non-Compacted Waste	
WIPP Status	Waste not currently included in AMWTF scope for WIPP disposal		
Waste Description	<i>Not currently summarized</i>		
Inner Packaging	<i>Not currently summarized</i>		
Drum Preparation	<i>Not currently summarized</i>		
Primary Waste Parameter(s)	<i>Not currently summarized</i>		
Special Notes	TBD		

N/A		N/A	N/A
N/A	BN-541	Debris SDOP to Supercompactor	
WIPP Status	N/A - Overpack Container		
Waste Description	All types of debris packaged in 55-gallon drums or larger that have been over-packed into a box or placed on a pallet for processing in AMWTF.		
Inner Packaging	All inner packaging is breached during size reduction or compaction.		
Box Preparation	No liners		
Primary Waste Parameter(s)	N/A – Overpack container		
Special Notes	<p>IDC BN-541 is reserved to track boxes packaged with uncharacterized debris drums for processing in AMWTF and is confirmed by RTR that all containers are > 50% debris. VE confirms that each container's contents are RPT-TRUW-83 IDCs.</p> <p>SDOP is a six-drum overpack wood box, EMOP is an eight-55-gallon drum metal pallet, and an SMOP is a six-85-gallon drum metal pallet. Only those IDCs identified in RPT-TRUW-83 are authorized as feed to the supercompactor and used as SDOP, EMOP, or SMOP inner container feedstock.^{6, 186}</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Debris Waste	S5000
S5000	MO-545	WEP Shielded Waste	
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal		
Waste Description	<i>Not currently summarized</i>		
Inner Packaging	<i>Not currently summarized</i>		
Drum Preparation	<i>Not currently summarized</i>		
Primary Waste Parameter(s)	<i>Not currently summarized</i>		
Special Notes	TBD		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-550	Supercompacted Debris	
WIPP Status	WIPP Candidate		
Waste Description	All types of TRU waste derived from the IDCs listed in RPT TRUW-83 that is compacted at the AMWTP and will be shipped to WIPP. Waste may also contain <50% by volume homogeneous solids or soil.		
Inner Packaging	All inner packaging is breached during compaction		
Drum Preparation	100-gallon product drums typically containing multiple compacted 55-gallon drums of feedstock (i.e., pucks) associated with the IDCs listed in RPT-TRUW-83. ¹⁸⁶		
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.		
Primary Waste Parameter(s)	Iron-based metals/alloys, cellulose, plastic (waste materials), other inorganic materials, rubber, other metals, aluminum-based metals/alloys		
Special Notes	The puck includes catch pans (if used) as well as the compacted feed drum. ⁴² Only those IDCs identified in RPT-TRUW-83 are authorized as feed to the WIPP approved supercompacted waste stream. ¹⁸⁶		

Solidified Organic		Homogeneous Solids	S3000
S3000	MO-550	Solidified Oil	
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal		
Waste Description	<i>Not currently summarized</i>		
Inner Packaging	<i>Not currently summarized</i>		
Drum Preparation	<i>Not currently summarized</i>		
Primary Waste Parameter(s)	<i>Not currently summarized</i>		
Special Notes	TBD		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-597	P/U-listed Lab PCB Debris Waste	
WIPP Status	WIPP Candidate		
Waste Description	Secondary waste generated in the laboratory from analyzing TRU waste samples that are characterized with P and/or U-listed HWNs and that are or may be contaminated with PCBs. Waste may also contain <50% by volume homogeneous solids including absorbed/solidified laboratory extraction liquids, sample residues (leached solids remaining after extraction), and returned unused sample material. This waste is generated at the analytical laboratory located at RWMC and operated by AMWTP.		
Inner Packaging	See INST-OI-24 ¹¹⁶		
Drum Preparation	See INST-OI-24 ¹¹⁶		
Primary Waste Parameter(s)	Cellulosics, plastic, other inorganic materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	<p>PCB waste with any observable liquid is prohibited from disposal at WIPP.</p> <p>WMC S5490/IDC BN-597 can only be used if contaminated laboratory waste is >50% by volume debris.</p> <p>If laboratory waste is >50% homogeneous solids, recommend IDC change to BN-598.</p> <p>IDC BN-597 containers that are not destined for disposal at WIPP (e.g., MLLW) are subject to the Land Disposal Restriction (LDR) program requirements. ²⁴² As a result, mixtures of debris and non-debris waste with BN-597 waste cannot be classified as debris if the waste generated was the result of intentional mixing of debris and non-debris waste at the laboratory (reference 40 CFR 268.2). A case-by-case evaluation must be conducted for all MLLW BN-597 waste containers.</p> <p>Reference IDC BN-525 for laboratory debris waste that is not contaminated with PCBs.</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics	Unknown/Other Homogeneous Solids		S3000
S3900	BN-598	P/U-listed Lab PCB Homogeneous Solids Waste	
WIPP Status	WIPP Candidate		
Waste Description	<p>Secondary waste generated in the laboratory from analyzing TRU waste samples that are characterized with P and/or U-listed HWNs and that are or may be contaminated with PCBs. The waste is comprised of analytical liquids (e.g., extraction liquids) that have been absorbed or solidified with imbibers beads, Acid Bond 660, or other absorbent/solidification agents. These liquids were generated during analysis of TRU waste samples. The waste may contain sample residues (leached solids remaining after extraction) and returned unused sample material. Waste may also contain <50% by volume debris items (e.g. vials). This waste was generated at the analytical laboratory located at RWMC and operated by AMWTP.</p>		
Inner Packaging	See INST-OI-24 ¹¹⁶		
Drum Preparation	See INST-OI-24 ¹¹⁶		
Primary Waste Parameter(s)	<p>Organic Matrix, Inorganic Matrix, Other Inorganic Materials (see Special Notes) NOTE: <i>Other waste parameters may be present because waste may contain debris items.</i></p>		
Special Notes	<p>PCB waste with any observable liquid is prohibited from disposal at WIPP. Organic Matrix may be conservatively assigned to this waste. WMC S3900/IDC BN-598 can only be used if >50% by volume homogeneous solids (e.g., absorbed/solidified liquids, sample residues, or unused solid samples). If >50% by volume debris, recommend IDC change to BN-597. Reference IDC BN-602 for laboratory homogeneous solids waste that is not contaminated with PCBs.</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics		Unknown/Other Homogeneous Solids	S3000
S3900	BN-599	Lab Non- PCB Homogenous Solids Waste (not P/U-listed)	
WIPP Status	WIPP Candidate		
Waste Description	The waste is comprised of analytical liquids (e.g., extraction liquids) that have been absorbed or solidified with imbibers beads, Acid Bond 660, or other absorbent/solidification agents that are not contaminated with PCBs. These liquids were generated during analysis of TRU waste samples. The waste may contain sample residues (leached solids remaining after extraction) and returned unused sample material. Waste may also contain <50% by volume debris items (e.g. vials). This waste was generated at the analytical laboratory located at RWMC and operated by AMWTP.		
Inner Packaging	See INST-OI-24 ¹¹⁶		
Drum Preparation	See INST-OI-24 ¹¹⁶		
Primary Waste Parameter(s)	Organic Matrix, Inorganic Matrix, Other Inorganic Materials (see Special Notes) NOTE: <i>Other waste parameters may be present because waste may contain debris items.</i>		
Special Notes	Organic Matrix may be conservatively assigned to this waste. WMC S3900/IDC BN-599 can only be used if >50% by volume homogeneous solids (e.g., absorbed/solidified liquids, sample residues, or unused solid samples). If >50% by volume debris, recommend IDC change to BN-527. Reference IDC BN-603 for laboratory homogeneous solids waste that is or may be contaminated with PCBs.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-600	WMF-676 PCB Contaminated Debris	
WIPP Status	WIPP Candidate		
Waste Description	PCB contaminated heterogeneous debris generated in WMF-676 from the remediation of PCB prohibited wastes (e.g. removal, cleanout, spill cleanup, or treatment of PCB waste/items from box lines, SCW, or DWPG). The waste may include PCB electrical equipment (e.g., capacitors, ballast, transformers), PIG [®] mats, blankets, and pillows; size-reduced drum liners and empty containers; PPE; wipes, and supercompactor feedstock debris that is PCB contaminated due to PCB spills (e.g., paper and rags; gloves; wipes; asbestos; PPE; plastic and rubber items; filters; leaded gloves, aprons, bricks, and sheeting; metal with and without lead or cadmium; floor tiles, piping, sheet rock, insulation, and glass; raschig rings; crucibles; fire brick; wood; Plexiglas [®] ; Benelex [®] ; pieces of equipment and tools; graphite; grit; and asphalt and concrete). The waste may also contain < 50% by volume of non-debris (e.g., soil, sludge, and particulate absorbents).		
Inner Packaging	Waste may be single or double bagged in small poly bags or waste may be direct loaded into the waste drum		
Drum Preparation	One Poly Drum Bag		
Primary Waste Parameter(s)	Iron-based metals/alloys, cellulose, plastic (waste materials) NOTE: <i>Other debris waste parameters may be present in the waste.</i>		
Special Notes	PCB waste with any observable liquid is prohibited from disposal at WIPP. Based on RTR results, waste may contain prohibited liquids or impenetrable objects. Based on VE results, waste may also contain sharp objects. ²⁴³ Supercompaction is not authorized for this PCB IDC. IDC BN-600 does not include heterogeneous PCB debris waste generated outside of WMF-676 (reference IDC BN-604).		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	CW-600	Sludge Repackage Project PCB Contaminated Debris	
WIPP Status	MLLW – Not a WIPP Candidate		
Waste Description	PCB contaminated heterogeneous debris generated as a result of repackaging AMWTP PCB- contaminated sludge at the INL SDA. The waste may include PCB electrical equipment (e.g., capacitors, ballast, transformers), size-reduced drum liners and empty containers; and PPE. The waste may also contain < 50% by volume of non-debris (e.g., soil, homogeneous solids, and particulate absorbents).		
Inner Packaging	Waste may be single or double bagged in small poly bags or waste may be direct loaded into the waste drum		
Drum Preparation	One Poly Drum Bag		
Primary Waste Parameter(s)	Iron-based metals/alloys, cellulose, plastic (waste materials) NOTE: <i>Other debris waste parameters may be present in the waste.</i>		
Special Notes	The waste may contain prohibited items (e.g., sealed containers, prohibited liquids, impenetrable objects, and sharp objects.) Supercompaction is not authorized for this PCB IDC.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	IC-601	Alpha Low Level Lab. WIPP Analytical Waste	
WIPP Status	WIPP Candidate		
Waste Description	Heterogeneous debris including, for example, filter paper, PPE, plastic, and glass generated at INTEC in the Alpha Low Level Laboratory from laboratory operations to support WIPP. The waste may also include <50% sample residues and absorbent such as diatomaceous earth. ²⁷⁴		
Inner Packaging	One or more plastic bags (e.g., polyethylene bag or Ziploc-type inner bag with a polyethylene bag over it), 5-gallon cans, small glass or plastic vials and/or one gallon glass or plastic bottles. The containers may contain absorbent. Polyethylene bags may be taped to form a seal. ²⁷⁴		
Drum Preparation	No Drum Bag. May or may not include a 10 or 90 mil polyethylene liner. ²⁷⁴		
Primary Waste Parameter(s)	Cellulosics, Plastic (waste materials), Other Inorganic Materials NOTE: <i>Other debris waste parameters may be present in the waste.</i>		
Special Notes	May contain PCB wastes.		

Solidified Organics		Unknown/Other Homogeneous Solids		S3000
S3900	BN-602	P/U-listed Lab Non-PCB Homogeneous Solids Waste		
WIPP Status	WIPP Candidate			
Waste Description	Secondary waste generated in the laboratory from analyzing TRU waste samples that are characterized with P and/or U-listed HWNs that is not PCB contaminated. The waste is comprised of analytical liquids (e.g., extraction liquids) that have been absorbed or solidified with imbibitor beads, Acid Bond 660, or other absorbent/solidification agents. These liquids were generated during analysis of TRU waste samples. The waste may contain sample residues (leached solids remaining after extraction) and returned unused sample material. Waste may also contain <50% by volume debris items (e.g. vials). This waste was generated at the analytical laboratory located at RWMC and operated by AMWTP.			
Inner Packaging	See INST-OI-24 ¹¹⁶			
Drum Preparation	See INST-OI-24 ¹¹⁶			
Primary Waste Parameter(s)	Organic Matrix, Inorganic Matrix, Other Inorganic Materials (see Special Notes) NOTE: <i>Other waste parameters may be present because waste may contain debris items.</i>			
Special Notes	Organic Matrix may be conservatively assigned to this waste. WMC S3900/IDC BN-602 can only be used if >50% by volume homogeneous solids (e.g., absorbed/solidified liquids, sample residues, or unused solid samples). If >50% by volume debris, recommend IDC change to BN-525. Reference IDC BN-598 for laboratory homogeneous solids waste that is or may be contaminated with PCBs.			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics	Unknown/Other Homogeneous Solids	S3000
S3900	BN-603	Lab PCB Homogenous Solids Waste (not P/U-listed)
WIPP Status	WIPP Candidate	
Waste Description	The waste is comprised of analytical liquids (e.g., extraction liquids) that have been absorbed or solidified with imbibers beads, Acid Bond 660, or other absorbent/solidification agents and that is or may be contaminated with PCBs. These liquids were generated during analysis of TRU waste samples. The waste may contain sample residues (leached solids remaining after extraction) and returned unused sample material. Waste may also contain <50% by volume debris items (e.g. vials). This waste was generated at the analytical laboratory located at RWMC and operated by AMWTP.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	Organic Matrix, Inorganic Matrix, Other Inorganic Materials (see Special Notes) NOTE: <i>Other waste parameters may be present because waste may contain debris items.</i>	
Special Notes	PCB waste with any observable liquid is prohibited from disposal at WIPP. Any homogeneous solids waste generated as of the result of analyzing samples of PCB contaminated waste (e.g., IDCs RF-003, BC-203, BN-604, BN-605, RF-743, and RF-746) is PCB waste. Organic Matrix may be conservatively assigned to this waste. WMC S3900/IDC BN-603 can only be used if >50% by volume homogeneous solids (e.g., absorbed/solidified liquids, sample residues, or unused solid samples). If >50% by volume debris, recommend IDC change to BN-526. Reference IDC BN-599 for laboratory homogeneous solids waste that is not contaminated with PCBs.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics	Unknown/Other Homogeneous Solids		S3000
S3900	IC-603	Laboratory Homogeneous Solids Waste	
WIPP Status	WIPP Candidate		
Waste Description	Analytical liquids (e.g., extraction liquids) that have been absorbed or solidified with imbibers beads, Acid Bond 660, or other absorbent/solidification agents. These liquids were generated during analysis of TRU waste samples. The waste may contain sample residues (leached solids remaining after extraction) and returned unused sample material. Waste may also contain <50% by volume debris items (e.g. vials). This waste was generated at the analytical laboratory located at INTEC. ^{223, 274}		
Inner Packaging	One or more plastic bags (e.g., polyethylene bag or Ziploc-type inner bag with a polyethylene bag over it), 5-gallon cans, small glass or plastic vials and/or one gallon glass or plastic bottles. The containers may contain absorbent. Polyethylene bags may be taped to form a seal. ²⁷⁴		
Drum Preparation	May or may not include a 10 or 90 mil polyethylene liner. ²⁷⁴		
Primary Waste Parameter(s)	Organic Matrix, Inorganic Matrix, Other Inorganic Materials (see Special Notes) NOTE: <i>Other waste parameters may be present because waste may contain debris items.</i>		
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids.²⁴³</p> <p>Organic Matrix may be conservatively assigned to this waste.</p> <p>WMC S3900/IDC IC-603 can only be used if >50% by volume homogeneous solids (e.g., absorbed/solidified liquids, sample residues, or unused solid samples).</p> <p>If >50% by volume debris, recommend a or b:</p> <ol style="list-style-type: none"> a. If waste is not PCB contaminated, recommend change to IDC IC-527. b. If waste is or suspected to be PCB contaminated, recommend change to IDC IC-526. <p>This IDC is conservatively managed as PCB contaminated because it may contain waste generated as of the result of analyzing samples of PCB contaminated waste (e.g., IDCs RF-003, BC-203, BN-604, BN-605, RF-743, or RF-746).</p> <p>Laboratory waste contains waste generated as a result of the analysis of INTEC waste that may contain or may have been derived from unused hydrofluoric acid product (HWN U134). U134 waste with any observable liquid is prohibited from disposal at WIPP.²⁷⁴</p>		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Organics		Unknown/Other Homogeneous Solids		S3000
S3900	IR-603	ATR CH-TRU Absorbed Liquids		
WIPP Status	WIPP Candidate			
Waste Description	This ATR TRU waste was generated from disposal of 18 actinide standards that were prepared at ATR during the 1950 to 1960 time period. The standards were prepared in dilute nitric acid solutions contained in small glass containers (ampoules, vials or bottles). They were individually bagged and liquids were absorbed onto diatomaceous earth and neutralized with potassium phosphate powder during packaging.			
Inner Packaging	Individual poly bags			
Drum Preparation	90-mil polyethylene drum liner in a 55-gal drum overpacked into an 85-gallon drum.			
Primary Waste Parameter(s)	Inorganic matrix, Plastic, Other Inorganic Materials, Other waste parameters may be present because waste may contain debris items.			
Special Notes	TBD			

Solidified Organics		Unknown/Other Homogeneous Solids		S3000
S3900	IW-603	Laboratory Homogeneous Solids Waste		
WIPP Status	WIPP Candidate			
Waste Description	Analytical liquids (e.g., extraction liquids) that have been absorbed or solidified with imbibor beads, Acid Bond 660, or other absorbent/solidification agents. These liquids were generated during analysis of TRU waste samples. The waste may contain sample residues (leached solids remaining after extraction) and returned unused sample material. Waste may also contain <50% by volume debris items (e.g. vials). This waste was generated at the analytical laboratory located at RWMC. ^{223, 226, 274}			
Inner Packaging	May be packaged in one or more plastic bags (e.g., polyethylene bag or Ziploc-type inner bag with a polyethylene bag over it), 5-gallon cans, small glass or plastic vials and/or one gallon glass or plastic bottles. The containers may contain absorbent. Polyethylene bags may be taped to form a seal. ²⁷⁴			
Drum Preparation	May or may not include a 10 or 90 mil polyethylene liner. ²⁷⁴			
Primary Waste Parameter(s)	Organic Matrix, Inorganic Matrix, Other Inorganic Materials (see Special Notes) NOTE: <i>Other waste parameters may be present because waste may contain debris items.</i>			
Special Notes	Organic Matrix may be conservatively assigned to this waste. WMC S3900/IDC IW-603 can only be used if >50% by volume homogeneous solids (e.g., absorbed/solidified liquids, sample residues, or unused solid samples). If >50% by volume debris, recommend a or b: <ul style="list-style-type: none"> a. If waste is not PCB contaminated, recommend change to IDC IW-527. b. If waste is or suspected to be PCB contaminated, recommend change to IDC IW-526. This IDC is conservatively managed as PCB contaminated because it may contain waste generated as of the result of analyzing samples of PCB contaminated waste (e.g., IDCs RF-003, BC-203, BN-604, BN-605, RF-743, or RF-746). Laboratory waste contains waste generated as a result of the analysis of INTEC waste that may contain or may have been derived from unused hydrofluoric acid product (HWN U134). U134 waste with any observable liquid is prohibited from disposal at WIPP. ²⁷⁴			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-604	Debris TSCA/PCB	
WIPP Status	WIPP Candidate		
Waste Description	Heterogeneous PCB debris waste generated by AMWTP including waste generated during handling of TSCA PCB contaminated waste or waste that contains PCB items other than PCB debris waste generated in WMF-676. Waste includes loose debris that is PCB contaminated or commingled with other PCB waste and debris generated during the cleanup of spills or leaks from waste containers that are PCB waste or are suspected to be PCB contaminated or contain PCB items (e.g., SDA IDCs). May also include intact containers of debris known or suspected to be commingled with PCB waste. Waste may contain any type of debris waste (e.g., cloth, paper, plastics, glass, rubber and metals debris). Waste may also contain <50% by volume soils or homogeneous solids (e.g., sludge).		
Inner Packaging	Waste may be double or triple bagged in small poly bags or waste may be direct loaded into the waste drum		
Drum Preparation	Up to two Poly Drum Bags		
Primary Waste Parameter(s)	Cellulosics, Plastics, Rubber, Other Inorganic Matrix, Iron-Based Metals/Alloys, Other Metals NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	<p>PCB waste with any observable liquid is prohibited from disposal at WIPP. Treatment (e.g., supercompaction) is not authorized for this IDC (PCBs).</p> <p>Based on RTR results, waste may contain prohibited liquids (including prohibited liquids in battery) or sharp objects. ²⁴³</p> <p>An IDC change to IDC BN-500 is allowed if the analytical results confirm that suspect PCB waste is not PCB waste.</p> <p>IDC BN-604 does not include PCB waste generated in WM-676 (reference IDC BN-600).</p> <p>IDC-BN-604 does not include the secondary waste generated from managing waste received under the AMWTP Offsite Waste Program other than spill cleanup waste from SDA waste containers (reference IDC BN-520 for offsite waste).</p>		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5400	IC-604	CWI CH Debris from Re-packaging AMWTP RH Debris	
WIPP Status	WIPP Candidate		
Waste Description	TBD		
Inner Packaging	TBD		
Drum Preparation	TBD		
Primary Waste Parameter(s)	TBD		
Special Notes	TBD		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics		Absorbed Organic Liquids	S3000
S3114	BN-605	Absorbed Liquids TSCA/PCB	
WIPP Status	WIPP Candidate		
Waste Description	Organic or aqueous PCB liquids derived from waste containers that were treated using an inorganic particulate material (e.g., Aquaset [®] , Petroset [®] , Micro-Cel [®] E, or other inorganic particulate absorbent material approved by EPA). The absorbed organic or aqueous PCB liquids include prohibited containerized liquids removed and absorbed at SCW. This also includes absorbed PCB liquids from maintenance activities and spill cleanups. ^{187, 188}		
Inner Packaging	Waste may be direct loaded into waste drum or packaged into 4-liter bottle / triple bagged into small poly bags		
Drum Preparation	Rigid liner if waste direct loaded into waste drum Up to two Poly Drum Bags if waste packaged in 4-liter bottles		
Primary Waste Parameter(s)	Organic Matrix		
Special Notes	<p>PCB waste with any observable liquid is prohibited from disposal at WIPP.</p> <p>Those waste specifically identified within the approved AMWTP PCB RBDA, PCB liquids can only be treated (absorbed) and only if the waste is destined for disposal at WIPP (i.e., only applies to TRU PCB liquids).</p> <p>IDC BN-605 does not include debris items designed or designated for spill cleanup or absorption of PCB liquids (e.g., rags or PIG[®] spill response pig/mat products, reference IDCs BN-600, BN-604 or BN-621).</p>		

N/A		N/A	N/A
N/A	BN-607	First/Second Stage Sludge Liquid	
WIPP Status	WIPP Candidate (after absorption and if TRU)		
Waste Description	Group 1 liquids decanted from containers of RF-001, RF-002, and RF-800 sludge waste. ¹¹⁶		
Inner Packaging	Not currently available		
Drum Preparation	Not currently available		
Primary Waste Parameter(s)	N/A		
Special Notes	<p>To be used for the storage of liquid if required in the future.</p> <p>TRU liquids require absorption for consideration as a WIPP candidate for disposal. An IDC change is required after absorption.</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	BN-608	Special Setups Liquid
WIPP Status	WIPP Candidate (after absorption and if TRU)	
Waste Description	Group 2 liquids decanted from containers of RF-004 and RF-802 sludge waste. ¹¹⁶	
Inner Packaging	Not currently available	
Drum Preparation	Not currently available	
Primary Waste Parameter(s)	N/A	
Special Notes	To be used for the storage of liquid if required in the future. TRU liquids require absorption for consideration as a WIPP candidate for disposal. An IDC change is required after absorption.	

N/A	N/A	N/A
N/A	BN-609	Building 374 Sludge Liquid
WIPP Status	WIPP Candidate (after absorption and if TRU)	
Waste Description	Group 3 liquids decanted from containers of RF-007, RF-803, and RF-807 sludge waste. ¹¹⁶	
Inner Packaging	Not currently available	
Drum Preparation	Not currently available	
Primary Waste Parameter(s)	N/A	
Special Notes	To be used for the storage of liquid if required in the future. TRU liquids require absorption for consideration as a WIPP candidate for disposal. An IDC change is required after absorption.	

N/A	N/A	N/A
N/A	BN-610	Misc. Homogeneous Solid Liquid
WIPP Status	WIPP Candidate (after absorption and if TRU)	
Waste Description	Group 4 liquids decanted from containers of RF-806 and RF-425 homogeneous solid waste. ¹¹⁶	
Inner Packaging	Not currently available	
Drum Preparation	Not currently available	
Primary Waste Parameter(s)	N/A	
Special Notes	To be used for the storage of liquid if required in the future. TRU liquids require absorption for consideration as a WIPP candidate for disposal. An IDC change is required after absorption.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	BN-611	Sewage and Pond Sludge Liquid
WIPP Status	WIPP Candidate (after absorption and if TRU)	
Waste Description	Group 5 liquids decanted from containers of RF-976, RF-978, and RF-995 sludge waste. ¹¹⁶	
Inner Packaging	Not currently available	
Drum Preparation	Not currently available	
Primary Waste Parameter(s)	N/A	
Special Notes	To be used for the storage of liquid if required in the future. TRU liquids require absorption for consideration as a WIPP candidate for disposal. An IDC change is required after absorption.	

N/A	N/A	N/A
N/A	BN-612	Caustic Waste Liquid
WIPP Status	WIPP Candidate (after absorption and if TRU)	
Waste Description	Group 6 liquids decanted from containers of MD-835 waste. ¹¹⁶	
Inner Packaging	Not currently available	
Drum Preparation	Not currently available	
Primary Waste Parameter(s)	N/A	
Special Notes	To be used for the storage of liquid if required in the future. TRU liquids require absorption for consideration as a WIPP candidate for disposal. An IDC change is required after absorption.	

N/A	N/A	N/A
N/A	BN-613	Acid Waste Liquid
WIPP Status	WIPP Candidate (after absorption and if TRU)	
Waste Description	Group 7 liquids decanted from containers of MD-834 waste. ¹¹⁶	
Inner Packaging	Not currently available	
Drum Preparation	Not currently available	
Primary Waste Parameter(s)	N/A	
Special Notes	To be used for the storage of liquid if required in the future. TRU liquids require absorption for consideration as a WIPP candidate for disposal. An IDC change is required after absorption.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	BN-614	Cemented Sludge Liquid
WIPP Status	WIPP Candidate (after absorption and if TRU)	
Waste Description	Group 11 liquids decanted from containers of MD-836 sludge waste. ¹¹⁶	
Inner Packaging	Not currently available	
Drum Preparation	Not currently available	
Primary Waste Parameter(s)	N/A	
Special Notes	To be used for the storage of liquid if required in the future. TRU liquids require absorption for consideration as a WIPP candidate for disposal. An IDC change is required after absorption.	

N/A	N/A	N/A
N/A	BN-615	OASIS Waste Liquid
WIPP Status	WIPP Candidate (after absorption and if TRU)	
Waste Description	Group 8 liquids decanted from containers of RF-700 and RF-801 sludge waste. ¹¹⁶	
Inner Packaging	Not currently available	
Drum Preparation	Not currently available	
Primary Waste Parameter(s)	N/A	
Special Notes	To be used for the storage of liquid if required in the future. TRU liquids require absorption for consideration as a WIPP candidate for disposal. An IDC change is required after absorption.	

N/A	N/A	N/A
N/A	BN-616	Organic Setups PCB Liquid
WIPP Status	See Special Notes	
Waste Description	Group 9 liquids decanted from containers of RF-003 sludge waste. ¹¹⁶	
Inner Packaging	Not currently available	
Drum Preparation	Not currently available	
Primary Waste Parameter(s)	N/A	
Special Notes	Decanting of TRU waste is permitted under specified conditions outlined in RBDA (e.g., <10% liquids in parent container and authorized IDC). Assay of liquids required prior to absorption/solidification. Absorption/solidification is prohibited for MLLW liquids classified as ≥ 500 ppm PCB. Absorption of TRU liquids allowed only if waste is confirmed for disposal at WIPP prior to absorption (reference IDC BN-605 for absorbed PCB liquids). To be used for the storage of liquid if required in the future.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	BN-617	Solidified Solutions Liquid
WIPP Status	WIPP Candidate (after absorption and if TRU)	
Waste Description	Group 10 liquids decanted from containers of BC-204 solidified solutions waste. ¹¹⁶	
Inner Packaging	Not currently available	
Drum Preparation	Not currently available	
Primary Waste Parameter(s)	N/A	
Special Notes	To be used for the storage of liquid if required in the future.	

N/A	N/A	N/A
N/A	BN-618	MLLW Non-debris
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Solid media less than 60 mm. Examples include kitty litter and paint chips. This waste does not include soil.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	TBD	

N/A	N/A	N/A
N/A	BN-619	LLW Debris and Non-debris
WIPP Status	LLW - Not a WIPP Candidate	
Waste Description	Non-soil solids. Examples include PPE, tarps, and tools. This waste stream does not include empty depressurized aerosol cans.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	TBD	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	BN-620	MLLW Debris
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Solid media >60 mm in any one dimension. Examples include PPE, tarps, tools, PIG [®] spill response pig/mat products (used to absorb liquids), etc.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	Based on RTR results, waste may contain prohibited liquids, sharp objects, or impenetrable objects. ²⁴³ The addition of liquid to containers of MLLW debris containing pigs or spill mats is prohibited (see INST-OI-24). ¹¹⁶	

N/A	N/A	N/A
N/A	BN-621	MLLW PCB Debris
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Solid media >60 mm in any one dimension that is PCB controlled and labeled. Examples include PCB ballasts and PCB spilled liquids absorbed on debris (e.g., absorbent pads).	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	Based on VE results, waste may contain sharp objects. ²⁴³ Log sheets must indicate if ballasts are present or how the waste originated if a result of a spill. The addition of liquid to containers of MLLW debris containing pigs or spill mats is prohibited (see INST-OI-24). ¹¹⁶	

N/A	N/A	N/A
N/A	BN-622	MLLW PCB Non-debris
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Solid media less than 60 mm that is PCB controlled and labeled. Examples include kitty litter used to absorb liquids and paint chips. This waste does not include soil.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	The addition of liquid to containers of MLLW PCB non-debris is prohibited (see INST-OI-24). ¹¹⁶	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	BN-623	MLLW Aerosol Cans and Gas Cylinders with Contents Present
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Aerosol cans that are non-empty or contain residual pressure. Gas cylinders with valves attached.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	Aerosol cans containing contents or where the pressure cannot be released shall be accumulated separately from other waste types. Use either IDCs BN-620 or BN-624 for empty depressurized aerosol cans and empty gas cylinders without valve mechanism.	

N/A	N/A	N/A
N/A	BN-624	LLW Empty Aerosol Cans and Empty Gas Cylinders
WIPP Status	LLW – Not a WIPP Candidate	
Waste Description	Empty aerosol cans and gas cylinders with valves removed.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	Use IDC BN-623 for aerosol cans containing contents or where the pressure cannot be released.	

N/A	N/A	N/A
N/A	BN-625	LLW Soil
WIPP Status	LLW - Not a WIPP Candidate	
Waste Description	Earthen media less than 60 mm. Examples include dirt with small amounts of small rocks.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	TBD	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	BN-626	MLLW Soil
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Earthen media less than 60 mm. Example includes dirt with small amounts of small rocks.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	TBD	

N/A	N/A	N/A
N/A	BN-627	MLLW PCB Soil
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Earthen media less than 60 mm that is PCB controlled and labeled. Examples include dirt with small amounts of small rocks.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	TBD	

N/A	N/A	N/A
N/A	BN-628	MLLW PCB Combustible Liquid
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Free flowing liquid with BTU content.	
Inner Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	Does not include decanted liquids from IDC RF-003 containers of Organic Setups) (reference IDC BN-616).	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A		N/A		N/A	
N/A	BN-629	MLLW PCB Non-combustible Liquid			
WIPP Status	MLLW – Not a WIPP Candidate				
Waste Description	Free flowing liquid without BTU content.				
Inner Packaging	See INST-OI-24 ¹¹⁶				
Drum Preparation	See INST-OI-24 ¹¹⁶				
Primary Waste Parameter(s)	N/A				
Special Notes	TBD				

N/A		N/A		N/A	
N/A	BN-630	MLLW Lead-acid Batteries			
WIPP Status	MLLW – Not a WIPP Candidate				
Waste Description	Lead-acid batteries that have not been drained to remove free liquids (battery acid).				
Inner Packaging	See INST-OI-24 ¹¹⁶				
Drum Preparation	See INST-OI-24 ¹¹⁶				
Primary Waste Parameter(s)	N/A				
Special Notes	TBD				

N/A		N/A		N/A	
N/A	BN-631	LLW Non-combustible Liquid			
WIPP Status	LLW – Not a WIPP Candidate				
Waste Description	Free flowing liquid without BTU content. It is generated from process at the AMWTP in radiological areas and cannot be released by Radiological Control.				
Inner Packaging	See INST-OI-24 ¹¹⁶				
Drum Preparation	See INST-OI-24 ¹¹⁶				
Primary Waste Parameter(s)	N/A				
Special Notes	TBD				

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	BN-632	MLLW Supercompactor Squeezants
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Inorganic or organic liquids generated as squeezants from the supercompaction of exclusively MLLW debris waste.	
Inner Packaging	4-liter bottles triple bagged	
Drum Preparation	No liner drum bag	
Primary Waste Parameter(s)	N/A	
Special Notes	MLLW liquids from a MLLW campaign are not intermixed with any liquids generated from the supercompaction of TRU debris waste.	

N/A	N/A	N/A
N/A	BN-633	MLLW SDOP to Supercompactor
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	All types of debris packaged in 55-gallon drums or larger that have been overpacked into a box or placed on a pallet for processing in AMWTF.	
Inner Packaging	All inner packaging is breached during size reduction or compaction.	
Box Preparation	No liners	
Primary Waste Parameter(s)	N/A	
Special Notes	<p>IDC BN-633 is reserved to track boxes packaged with characterized debris drums for processing in AMWTF and is not to be used for characterizing waste.</p> <p>SDOP is a six-drum overpack wood box, EMOP is an eight-55-gallon drum metal pallet, and an SMOP is a six-85-gallon drum metal pallet.</p> <p>Only those IDCs identified in RPT-TRUW-83 are authorized as feed to the supercompactor and used as SDOP, EMOP, or SMOP inner container feedstock. ⁶</p>	

N/A	N/A	N/A
N/A	BN-634	MLLW PCB Debris Generated from Offsite Waste
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Solid media >60 mm in any one dimension generated from offsite wastes that is PCB contaminated or PCB items. Examples include PCB items, PPE, tarps, tools, PIG [®] spill response pig/mat products, HEPA filters, smear paper, etc.	
Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	This IDC applies only to secondary waste generated from waste that is PCB waste and that was received through the AMWTP Offsite Waste Program.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	BN-635	MLLW Debris Generated from Offsite Waste
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Solid media >60 mm in any one dimension generated from offsite wastes that are not profiled by AMWTP for shipment to WIPP (e.g., approved as feed for the supercompacted waste stream). Examples include PPE, tarps, tools, PIG [®] spill response pig/mat products, drum lids, bag stubs, HEPA filters, etc.	
Packaging	See INST-OI-24 ¹¹⁶	
Drum Preparation	See INST-OI-24 ¹¹⁶	
Primary Waste Parameter(s)	N/A	
Special Notes	This IDC applies only to secondary waste generated from waste that is not PCB waste, was received through the AMWTP Offsite Waste Program, and is not profiled by AMWTP for shipment to WIPP (e.g., waste approved as feed for the supercompacted waste stream).	

N/A	N/A	N/A
N/A	BN-636	LLW Empty Containers with PCB
WIPP Status	LLW – Not a WIPP Candidate	
Waste Description	Empty cargo containers, 55-gallon drums or 83/85-gallon overpacks generated during the retrieval or treatment processes with suspect-PCB contamination. ¹¹⁶	
Inner Packaging	N/A	
Drum Preparation	N/A	
Primary Waste Parameter(s)	Iron-Based Metals/Alloys	
Special Notes	Treatment (e.g., supercompaction) not authorized for this IDC (PCBs). An IDC change to IDC BN-637 is allowed for empty cargos if the analytical results confirm that suspect PCB waste is not PCB waste.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	BN-637	LLW Empty Cargos
WIPP Status	LLW – Not a WIPP Candidate	
Waste Description	Empty cargo containers generated during the retrieval process verified to be non-PCB waste. 116	
Inner Packaging	N/A	
Drum Preparation	N/A	
Primary Waste Parameter(s)	N/A	
Special Notes	TBD	

Heterogeneous Debris Waste	Unknown/Other Heterogeneous Debris	S5000
S5490	BN-638	Oversized Debris Items From Supercompactor Facility
WIPP Status	MLLW – Not a WIPP Candidate	
Waste Description	Oversized debris waste items that are transferred out of the facility via the shredder chute. Examples of oversized waste items include hardened metals, milling tables, and large diameter solid bars. The debris items may also include large tools or equipment from the Facility. The waste also includes shredded boxes (wooden and steel) used as filler material. The waste may include gloves, wipes, plastic, PPE, bag cutters, tape, and sleeve stub generated during the packaging operations.	
Inner Packaging	Debris items may be wrapped in plastic.	
Box Preparation	Metal shredder box with docking sleeve	
Primary Waste Parameter(s)	Iron-Based Metals/Alloys, Cellulosics NOTE: <i>Any amount of other debris waste parameters may be present.</i>	
Special Notes	Shredded boxes are used as “packaging” to fill void volume. This waste does not include items that contain oil filled equipment or waste that does not meet the definition of debris per 40 CFR 268.2 (e.g., lead acid batteries, elemental lead).	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Inorganics		Solidified Homogeneous Solids		S3000
S3150	RF-696	Bldg 771 Cemented Incinerator Sludge		
WIPP Status	WIPP Candidate			
Waste Description	Cemented Incinerator Sludge was generated between 1985 and 1987. The incinerator sludge was immobilized with Portland cement and water into a 1-gallon polyethylene container mold and allowed to cure. The mold was removed and the solidified “puck” was placed in a 55-gallon drum. Waste may also contain <50% by volume plastic debris items (e.g., broken clamshells).			
Inner Packaging	O-Ring bag / Small Poly bag or Large Poly bag for the bag-out of multiple pucks at once.			
Drum Preparation	Waste Area Drum - Rigid Liner / Poly drum bag / Poly drum bag Glovebox Load-Out Drum - Rigid Liner / Poly Drum Bag / O-Ring Load-Out Drum Bag / Fiberboard liner and discs			
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.			
Primary Waste Parameter(s)	Inorganic Matrix			
Special Notes	Cemented pucks may have been bagged out in groups of 3 to 8, or bagged out individually. Building 771 Cemented Incinerator Sludge should be designated as RF-696 in WTS. This waste is identified as RF-807b in some documents. Historical ID typically begins with “IDRF0011.”			

Soil		Soil/Debris		S4000
S4200	RF-697	Dirt		
WIPP Status	WIPP Candidate			
Waste Description	Dirt, sand, and soil generated from cleanup of spills and leaks. This is the dirt, soil, sand, and gravel portion of IDC RF-374. Waste may only contain <50% by volume construction rubble (e.g., concrete, blacktop, metal, rock, combustibles, glass, or plastic). Approximately 700 drums generated before 1979 may contain material from the lip area beside the blacktop pad that covered contaminated soil. ²⁰			
Inner Packaging	Single- or double-contained in Poly or PVC Bags OR Packaged in Fiberpaks OR Placed directly into waste container			
Drum Preparation	Rigid Liner (after 1971) / up to two Poly Drum Bags May have cardboard drum liner			
Box Preparation	Poly Box Bag / Cardboard Box Liner			
Primary Waste Parameter(s)	Soils/gravel			
Special Notes	Based on RTR results, waste may contain prohibited liquids or impenetrable waste. ²⁴³ IDC RF-697 was created to allow segregation of containers that were assigned IDC RF-374 by RF but contain >50% by volume soil. In addition, the IDC title for RF-374 was modified to reflect debris. WMC S4200/IDC RF-697 can ONLY be used if >50% by volume soils, gravel, or sand (natural geologic material ≤2.36 inches [60 millimeters]).			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics		Solidified Homogeneous Solids		S3000
S3150	RF-700	OASIS Waste		
WIPP Status	WIPP Candidate – Characterized by CCP			
Waste Description	Solidified organic liquid generated in Building 774 Organic and Sludge Immobilization System (OASIS) prototype by mixing solvent and oils from machining operations with Envirostone® and gypsum cement.			
Inner Packaging	Direct loaded into the waste drum from the glovebox			
Drum Preparation	Rigid Liner / Poly Drum Bag / O-Ring Drum Load-Out Bag			
Primary Waste Parameter(s)	Organic Matrix			
Special Notes	Based on RTR results, waste may contain prohibited liquids within the drum bag. ²⁴³ Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination. IDC 700 replaced by IDC 801.			

N/A		N/A		N/A
N/A	BN-701	MLLW Supercompacted Debris		
WIPP Status	MLLW – Not a WIPP Candidate			
Waste Description	Debris waste from supercompactor operations compacted into pucks that are all <100 nCi/g and are packaged into 100-gallon drums at the AMWTP.			
Inner Packaging	All inner packaging breached during compaction			
Drum Preparation	100-gallon product drums <100 nCi/g containing multiple compacted 55-gallon drums of debris each <100 nCi/g.			
Primary Waste Parameter(s)	N/A			
Special Notes	Mercury has been found in one MLLW drum (BN10164872). Only those IDCs identified in RPT-TRUW-30 are authorized as feed to the supercompactor. ⁶			

N/A		N/A		N/A
N/A	BN-702	MLLW Supercompacted Debris		
WIPP Status	MLLW – Not a WIPP Candidate			
Waste Description	Waste from supercompactor operations compacted into pucks that are all <100 nCi/g and are packaged into 100-gallon drums at the AMWTP.			
Inner Packaging	All inner packaging breached during compaction			
Drum Preparation	100-gallon product drums <100 nCi/g containing multiple compacted 55-gallon drums each <100 nCi/g.			
Primary Waste Parameter(s)	N/A			
Special Notes	Only those IDCs identified in RPT-TRUW-83, and approved MLLW waste stream feed stock BL-010 and BL-020 are authorized as feed to the supercompactor. ¹⁸⁶			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	Unknown/Other Solids		S9000
S9000	SD-703	SDA Waste Containing Nitrate Salts	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{227, 228}		
Special Notes			

Solidified Organics	Unknown/Other Homogeneous Solids		S3000
S3900	SD-704	SDA Homogeneous Solids	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{67, 229}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Heterogeneous Debris Waste	Heterogeneous Debris		S5000
S5400	SD-705	SDA Heterogeneous Debris	
WIPP Status	WIPP Candidate – Offsite Waste Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{67, 230}		
Special Notes	If waste is <50% by volume debris or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Soils	Soil/Debris		S4000
S4200	SD-706	SDA Soil	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{67, 231}		
Special Notes	If waste is <50% by volume soils or contains prohibited items, notify the AMWTP offsite waste coordinator.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	RL-712	Hanford Plutonium Finishing Plant Debris	
WIPP Status	WIPP Candidate		
Waste Description	Heterogeneous debris waste generated at the Hanford Plutonium Finishing Plant (PFP) that may include iron-based metals tools, scrap, and equipment (pipes, pumps, tanks, hot plates, sampled racks, stirrers, burners, slip-lid cans, levels, grease guns); aluminum (foil, mask filters, racks, containers, structural components), leaded items (aprons, seals, tape, gloves), fluorescent light bulbs; glass; ceramics; paper (cardboard cartons), PPE, rags, wood (ladders, brush handles, filter frames), filter media, rubber (masks, gloves, tubing), and plastics (bags, poly jars, bottles, Anti-Corrosive Rad Pads [polypropylene]); sand, slag, and crucible waste; and beryllium and selenium sources. Waste may also contain <50% by volume absorbed organic and inorganic liquids packaged in metal cans. ^{82, 182, 191, 192}		
Inner Packaging	Plastic bags (up to five inner bags) May be packaged in poly bottles or metal cans (e.g., 4-quart, 5-quart, and 5-gallon paint cans and 4-gallon slip lid cans)		
Drum Preparation	Poly drum liner bag (after 1977) 55-gallon drum overpacked into 85-gallon drum		
Primary Waste Parameter(s)	Iron-based metals/alloys, plastic (waste materials), cellulose, rubber, other inorganic materials, other metals NOTE: <i>Other debris waste parameters may be present in the waste.</i>		
Special Notes	This IDC is assigned to waste received from RL in accordance with AMWTP Profile MPFPDD. ¹⁸² RTR/VE to verify that waste does not have any supercompactor facility prohibited items (e.g., PCB items, prohibited liquids, >4-liter sealed containers, unpunctured aerosol cans). If waste contains any prohibited items, notify AMWTP offsite waste coordinator. If waste is <50% by volume debris, recommend IDC UN-00A or UN-00C and notify the AMWTP offsite waste coordinator.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	RL-714	Hanford Radiochemical Processing Lab 325 Bldg Debris	
WIPP Status	WIPP Candidate		
Waste Description	Heterogeneous debris waste generated in the Radiochemical Processing Laboratory located in Building 325 at Hanford may include inorganic debris (e.g., iron- based metals, glass ceramics, asbestos, and aluminum-based metals) and organic debris (e.g., plastic, cellulose, and rubber). Example of debris items include diaper paper, wipes, towels, protective clothing, cardboard, metal cans, HEPA filters, stainless-steel tubing, plastic pipe, lead (bricks and sheeting), poly bottles, machinery, alkaline batteries, circuit boards, incandescent light bulbs, labware (beakers, pipettes, vials, tubing), gloves (leaded, cloth, leather, rubber, Hypalon), lab equipment (balances, drying ovens, heating mantles, pumps, vessels), thermometers, tape, concrete, non-asbestos insulation, plumbing fixtures, ladders, step benches, and tools (screw drivers, wrenches, shears). Waste may also contain <50% by volume absorbed and cemented liquids (organic and inorganic) packaged in cans, absorbents used in packaging (kitty litter, Vermiculite, diatomaceous earth), and soil. ^{83, 183, 193}		
Inner Packaging	Plastic bags (up to five inner bags including one heat sealed bag) May be packaged in metal cans (e.g., 4-quart, 5-quart, and 5-gallon paint cans and 4-gallon slip lid cans) RTR has also identified waste packaged in cardboard cartons		
Drum Preparation	Poly drum liner bag (after 1977) 55-gallon drum overpacked into 85-gallon drum		
Primary Waste Parameter(s)	Iron-based metals/alloys, other inorganic materials, plastic (waste materials), cellulose, rubber, other metal NOTE: <i>Other waste parameters may be present in the waste.</i>		
Special Notes	This IDC is assigned to waste received from RL in accordance with AMWTP Profile RLM325D.001. ¹⁸³ RTR/VE to verify that waste does not have any supercompactor facility prohibited items (e.g., PCB items, prohibited liquids, >4-liter sealed containers, or unpunctured aerosol cans). If waste contains any prohibited items, notify AMWTP offsite waste coordinator. If waste is <50% by volume debris, recommend IDC UN-00A or UN-00C and notify the AMWTP offsite waste coordinator.		

Solidified Inorganics		Inorganic Particulate Absorbents	S3000
S3113	RL-715	Hanford Homogeneous Solid Waste	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{232, 233}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Heterogeneous Debris	S5000
S5400	RL-716	Hanford 231-Z Building Debris	
WIPP Status	WIPP Candidate		
Waste Description	Heterogeneous debris waste generated in Building 231-Z at Hanford may include cloth, wood, plastic, ladders, plexiglas, step benches, polyethylene bottles, gloves, paper, absorbents, rubber, insulation materials, rags, equipment, tools, glass, conduit, lathes, pumps, tanks, piping, fans, light fixtures, instrumentation, conveyor sections, wire, HEPA filters, gloveboxes, tanks, ductwork, concrete, bricks, floor tiles, piping, sheet rock, and lagging. Waste may also contain <50% by volume liquids absorbed on Quick-Zorb or Zorb-all or solidified with Portland cement packaged in cans and absorbents (e.g., kitty litter, Vermiculite, diatomaceous earth) used in packaging. ^{84, 184, 194}		
Inner Packaging	Plastic bags (up to two inner bags, including one heat sealed bag) May be packaged in metal cans (e.g., 4-quart, 5-quart, and 5-gallon paint cans and 4-gallon slip lid cans)		
Drum Preparation	Poly drum liner bag (after 1976) 55-gallon drum overpacked into 85-gallon drum		
Primary Waste Parameter(s)	Iron-based metals/alloys, plastic (waste materials), cellulose, other inorganic materials, rubber NOTE: <i>Other waste parameters may be present in the waste.</i>		
Special Notes	This IDC is assigned to waste received from RL in accordance with AMWTP Profile RLM231ZD.001. ¹⁸⁴ RTR/VE to verify that waste does not have any supercompactor facility prohibited items (e.g., PCB items, prohibited liquids, unpunctured aerosol cans). If waste contains any prohibited items, notify AMWTP offsite waste coordinator. If waste is <50% by volume debris, recommend IDC UN-00A or UN-00C and notify the AMWTP offsite waste coordinator.		

Solidified Inorganics		Solidified Homogeneous Solids	S3000
S3150	RL-720	Hanford KE Basin North Loadout Pit Sludge	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{234, 235}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Wastewater Treatment Sludges		S3000
S3121	RF-741	Pits 11 & 12 First Stage Sludge		
WIPP Status	WIPP Candidate			
Waste Description	Drums of inorganic sludge with container prefix 741 that were generated at RF prior to October 1972 and were retrieved during the EWR Project and the IDR Project. The sludge was generated from the same process that generated the IDC RF-001 sludge. ⁸⁰			
Inner Packaging	Direct loaded into the waste drum			
Drum Preparation	Poly Drum Bag / O-Ring Drum Load-Out Bag Rigid liners are not expected in any of the drums packaged prior to 1972.			
Primary Waste Parameter(s)	Inorganic Matrix			
Special Notes	<p>Based on RTR results of drums of other RF bulk or direct loaded sludge waste, this waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum.</p> <p>Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>If homogeneous solids are packaged in 30-gallon drum, recommend change to IDC UN-00A.</p> <p>Historical ID includes container prefix of "741." Containers retrieved during the EWR Project and the IDR Project were overpacked into 83-gallon drums, cargo containers, or bins which were transferred to TSA-RE (reference IDCs RF-998 and RF-999).^{80, 119, 120}</p>			

Solidified Inorganics		Wastewater Treatment Sludges		S3000
S3121	RF-742	Pits 11 & 12 Second Stage Sludge		
WIPP Status	WIPP Candidate			
Waste Description	Drums of inorganic sludge generated at Rocky Flats prior to October 1972 with container prefix 742 that were retrieved during the EWR Project and the IDR Project. The sludge was generated from the same process that generated the IDC RF-002 sludge. ⁸⁰			
Inner Packaging	Direct loaded into the waste drum			
Drum Preparation	Poly Drum Bag / O-Ring Drum Load-Out Bag Rigid liners are not expected in any of the drums packaged prior to 1972.			
Primary Waste Parameter(s)	Inorganic Matrix			
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids.²⁴³</p> <p>Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>If homogeneous solids are packaged in 30-gallon drum, recommend change to IDC UN-00A.</p> <p>Historical ID includes container prefix of "742." Containers retrieved during the EWR Project and the IDR Project were overpacked into 83-gallon drums, cargo containers, or bins which were transferred to TSA-RE (reference IDCs RF-998 and RF-999).^{80, 119, 120}</p>			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics		Absorbed Organic Liquids	S3000
S3114	RF-743	Pits 11 & 12 Organic Setups	
WIPP Status	WIPP Candidate		
Waste Description	Drums of organic waste with container prefix 743 that were generated at RF prior to October 1972 and were retrieved during the EWR Project and the IDR Project. The organic waste was generated from the same process that generated the IDC RF-003 waste. ⁸⁰		
Inner Packaging	Direct loaded into the waste drum		
Drum Preparation	Poly Drum Bag / O-Ring Drum Load-Out Bag Rigid liners are not expected in any of the drums packaged prior to 1972.		
Primary Waste Parameter(s)	Organic Matrix		
Special Notes	<p>PCB waste with any observable liquid is prohibited from disposal at WIPP. Based on RTR results, waste may contain prohibited liquids.²⁴³</p> <p>Visual examination of this bulk or direct loaded waste packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>If homogeneous solids are packaged in 30-gallon drum, recommend change to IDC UN-00A. Liquid PCB treatment is only allowed if waste is targeted for shipment to WIPP and when this IDC is approved by EPA for treatment within the AMWTP RBDA.</p> <p>This waste is assumed to be PCB contaminated. The net weight of waste should be used as the "PCB Mass" in WTS.</p> <p>Historical ID includes container prefix of "743." Containers retrieved during the EWR Project and the IDR Project were overpacked into 83-gallon drums, cargo containers, or bins which were transferred to TSA-RE (reference IDCs RF-998 and RF-999).^{80, 119, 120}</p>		

Solidified Inorganics		Solidified Homogeneous Solids	S3000
S3150	RF-744	Pits 11 & 12 Special Setups	
WIPP Status	WIPP Candidate		
Waste Description	Drums of special setups generated at Rocky Flats prior to October 1972 with container prefix 744 that were retrieved during the EWR Project and the IDR Project. The special setups were generated from the same process that generated the IDC RF-004 special setups waste. ⁸⁰		
Inner Packaging	Direct loaded into the waste drum		
Drum Preparation	Poly Drum Bag / O-Ring Drum Load-Out Bag Rigid liners are not expected in any of the drums packaged prior to 1972.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	<p>Based on RTR results of drums of other RF bulk or direct loaded sludge, this waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum.</p> <p>Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>If homogeneous solids are packaged in 30-gallon drum, recommend change to IDC UN-00A. Historical ID includes container prefix of "744." Containers retrieved during the EWR Project and the IDR Project were overpacked into 83-gallon drums, cargo containers, or bins which were transferred to TSA-RE (reference IDCs RF-998 and RF-999).^{80, 119, 120}</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Salt Waste	Evaporator Salts	S3000
S3143	RF-745	Pits 11 & 12 Evaporator Salts
WIPP Status	WIPP Candidate	
Waste Description	Drums of evaporator salts generated at RFP prior to October 1972 with container prefix 745 that were retrieved during the EWR Project and the IDR Project. The evaporator salts were generated from the same process that generated the IDC RF-005 evaporator salts. ⁸⁰	
Inner Packaging	Direct loaded into the waste drum	
Drum Preparation	Poly Drum Bag / O-Ring Drum Load-Out Bag Rigid liners are not expected in any of the drums packaged prior to 1972.	
Primary Waste Parameter(s)	Other Inorganic Materials	
Special Notes	<p>Historical ID includes container prefix of "745."</p> <p>Based on RTR results of drums of other RF bulk or direct loaded salt, this waste may contain prohibited liquids.</p> <p>Visual examination of this bulk or direct loaded salt packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>If homogeneous solids are packaged in 30-gallon drum, recommend change to IDC UN-00A.</p> <p>Containers retrieved during the EWR Project and the IDR Project were placed on TSA-RE or overpacked into 83-gallon drums, cargo containers, or bins which were transferred to TSA-RE (reference IDCs RF-998 and RF-999).^{80, 119, 120}</p> <p>This IDC also includes drums of evaporator salt packaged prior to 1972 that were placed into MIII bins which were transferred to TSA-RE (reference IDC IW-005).⁹⁷</p>	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Organics		Absorbed Organic Liquids	S3000
S3114	RF-746	Pits 11 & 12 903 Pad Oil Drums	
WIPP Status	WIPP Candidate		
Waste Description	Drums with container prefix 746 may include empty drums that previously contained oil and solvents stored on the 903 Pad at RFP. The drums were emptied and absorbent and Micro-Cel [®] E (i.e., a synthetic calcium silicate) added at RFP prior to shipping the drums to INL. Some of these drums were placed in the SDA prior to October 1972 and subsequently retrieved during the EWR Project and the IDR Project. IDC RF-746 was created to designate those drums that were not adequately emptied and contain solvent/oil/absorbent/Micro-Cel [®] E. Drums with container prefix 746 may also contain debris or soil (See Special Notes). ^{67, 80}		
Inner Packaging	Direct loaded into the waste drum		
Drum Preparation	Poly Drum Bag / O-Ring Drum Load-Out Bag Rigid liners are not expected in any of the drums packaged prior to 1972.		
Primary Waste Parameter(s)	Organic Matrix (e.g., sludge)		
Special Notes	<p>PCB waste with any observable liquid is prohibited from disposal at WIPP.</p> <p>The oil/sludge waste is assumed to be PCB contaminated. The net weight of sludge should be used as the "PCB Mass" in WTS. Treatment of liquids is not authorized for this IDC under the approved AMWTP RBDA. Concurrence by EPA must be obtained prior to absorption.</p> <p>If homogeneous solids are packaged in 30-gallon drum, recommend change to IDC UN-00A.</p> <p>Drums were conservatively assigned IDC RF-746 based on their historical drum prefix 746 but may contain debris. If >50% by volume debris, recommend change to IDC RF-750.</p> <p>If >50% by volume soil, recommend change to IDC RF-753.</p> <p>If indeterminate, recommend IDC UN-000 and an AK evaluation will be performed.</p> <p>Historical ID includes container prefix of "746." Containers retrieved during the EWR Project and the IDR Project were overpacked into 83-gallon drums, cargo containers, or bins which were transferred to TSA-RE (reference IDCs RF-998 and RF-999).^{80, 119, 120}</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Unknown/ Other Homogeneous Solids	S3000
S3900	RF-747	Pits 11 & 12 Miscellaneous Sludge	
WIPP Status	WIPP Candidate		
Waste Description	Drums of sludge generated at RFP prior to October 1972 with container prefixes other than 741 through 746 (e.g., prefixes 71, 771, 776, 777, or 871) that were retrieved during the EWR Project and the IDR Project. The sludge was generated in buildings other than Building 774 (e.g., Buildings 444, 447, 771, 776, 777, 881 and 883). ^{53, 80}		
Inner Packaging	Direct loaded into the waste drum		
Drum Preparation	Poly Drum Bag / O-Ring Drum Load-Out Bag Rigid liners are not expected in any of the drums packaged prior to 1972.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	<p>Based on RTR results of drums of RFP bulk or direct loaded sludge, this waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum.</p> <p>Based on RTR results, this waste may contain impenetrable waste.²⁴³</p> <p>If homogeneous solids are packaged in 30-gallon drum, recommend change to IDC UN-00A. Drums were conservatively assigned IDC RF-747 based on weight (≥ 300 pounds) and their historical drum prefix is associated with a building other than Building 774 (e.g., Buildings 771, 776, 777, 881, and 883) but may contain debris. If $>50\%$ by volume debris, recommend IDC change to RF-750.</p> <p>If $>50\%$ by volume soil, recommend change to IDC RF-753.</p> <p>If indeterminate, recommend IDC UN-000 and an AK evaluation will be performed.</p> <p>Containers retrieved during the EWR Project and the IDR Project were overpacked into 83-gallon drums, cargo containers, or bins which were transferred to TSA-RE (reference IDCs RF-998 and RF-999).^{80, 119, 120}</p>		

Solidified Organics		Biological Sludges	S3000
S3221	RF-749	Pits 11 and 12 Sewer Sludge	
WIPP Status	WIPP Candidate		
Waste Description	Drums of sewer sludge generated at RFP sewage treatment plant prior to October 1972 with container prefix 995 that were retrieved during the EWR Project and the IDR Project. The sewage sludge was generated from the same process that generated the IDCs RF-095 and RF-995 sludge. ⁸⁰		
Inner Packaging	Direct loaded into the waste drum (prior to 1975).		
Drum Preparation	Poly drum bag / Poly drum bag Rigid liners are not expected in any of the drums packaged prior to 1972. Portland cement added as absorbent to bottom of inner bag prior to filling and as a “cap” after filling.		
Primary Waste Parameter(s)	Organic Matrix		
Special Notes	<p>Based on RTR results of drums of other RFP bulk or direct loaded sludge, this waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum. Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination. May have cement in drum, rigid liner, and/or poly drum bag.</p> <p>If homogeneous solids are packaged in 30-gallon drum, recommend change to IDC UN-00A.</p> <p>If $>50\%$ by volume debris, recommend IDC change to RF-750.</p> <p>If $>50\%$ by volume soil, recommend change to IDC RF-753.</p> <p>If indeterminate, recommend IDC UN-000 and an AK evaluation will be performed.</p> <p>Historical ID typically begins with “IDRF0995.”</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	RF-750	Pits 11 & 12 Debris	
WIPP Status	WIPP Candidate		
Waste Description	Containers of debris generated at RFP prior to October 1972 and retrieved during the EWR Project and the IDR Project. Waste may include combustibles (paper, rags, clothing, wood, and plastic), filter paper, CWS filters, HEPA filters, non-combustibles (glass, scrap metal, ceramics, graphite, firebrick, equipment, and concrete). Waste may also contain <50% by volume soil. ^{57, 80}		
Inner Packaging	Direct loaded into the waste drum		
Drum Preparation	Poly Drum Bag / Poly Drum Bag Rigid liners are not expected in any of the drums packaged prior to 1972. Some debris waste may be packaged in 30-gallon drums. ¹³²		
Primary Waste Parameter(s)	Cellulosics, plastics (waste materials), rubber, iron-based metals/alloys, aluminum-based metals/alloys, other inorganic materials, other metals		
Special Notes	<p>Based on RTR results, waste may contain capacitors (which may contain PCBs), aerosol cans, prohibited liquids, sealed containers >4 liters (including 30-gallon drums), sharp objects, impenetrable objects/waste, or impenetrable lead shielding.²⁴³</p> <p>WMC S5490/IDC RF-750 can ONLY be used if >50% by volume RFP debris materials. If the debris waste is packaged in a 30-gallon drum and if the debris waste is very dense or there is any visible evidence of dense homogeneous solids (e.g. sludge with metal chips and shavings) mixed with the debris, recommend change to IDC UN-00B.</p> <p>If >50% by volume homogeneous solids (e.g., sludge), recommend change to IDC UN-00A.</p> <p>If >50% by volume soil, recommend change to IDC RF-753.</p> <p>If indeterminate, recommend change to IDC UN-000 and an AK evaluation will be performed.</p> <p>Historical IDs with container prefixes of “71, 76, or 77” may have been generated during D&D of Buildings 776 and 777 after the 1969 fire.¹³¹</p> <p>Containers retrieved during the EWR Project and the IDR Project were overpacked into 83-gallon drums, cargo containers, or bins which were transferred to TSA-RE (reference IDCs RF-998 and RF-999).^{80, 119, 120}</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics	Unknown/Other Homogeneous Solids		S3000
S3900	RF-751	Pits 11 & 12 Roaster Oxide	
WIPP Status	WIPP Candidate (if TRU waste)		
Waste Description	Containers of roaster oxide (RO) generated at RFP. Containers may be direct shipped from RFP or part of the waste from the EWR or IDR projects. The RO consist of depleted uranium (DU) metal or alloy pieces (machining chips, turnings, or fines) that were oxidized (thermally stabilized) by calcining or roasting resulting in a fine uranium oxide powder (black or black-gray in color) that is approximately three to four millimeters in diameter and varies in texture from relatively fine grained to a more coarse-grained. The waste may also contain debris items including hunks of uranium metal, tooling, work gloves, and other items contaminated with DU. <small>53, 67,80, 87</small>		
Inner Packaging	Direct loaded into 30-gallon drum but may only be partially filled ⁶⁷ 30-gallon drum may be overpacked into 55-gallon drum. ⁶⁷ Based on RTR, 30-gallon drums or 55-gallon overpacks may be overpacked into bins. Vermiculite or other such substance may be present as filler material between the 30- and 55-gallon drums. ⁶⁷		
Drum Preparation	Poly Drum Bag / O-Ring Drum Load-Out Bag Rigid liners are not expected in any of the drums packaged prior to 1972 Not expected to be packaged directly into a 55-gallon drum		
Bin Preparation	Drums of this waste may be direct loaded into MIII or MIV bins.		
Primary Waste Parameter(s)	Other Inorganic Materials		
Special Notes	<p>Based on RTR results, waste may contain sealed containers >4 liters (including 30-gallon drums) or impenetrable objects/waste. ²⁴³</p> <p>Visual Examination of bulk or direct loaded RO (machining chips, turnings, etc. which have been thermally stabilized) packaged in 30-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>Because waste is predominantly depleted uranium, most of the waste containers will not be shippable to WIPP. The efficiency of oxidation process did not preclude the possibility that pyrophoric material (i.e., un-oxidized machining chips, turning, or fines) may still be present in this waste. ^{67, 80} Due to the residual heat in the roaster oxide waste when it was placed into the 30-gallon drum, the pieces of oxide may have become fused forming a large chunk of material in the drum. ⁶⁷</p> <p>Drums were conservatively assigned IDC RF-751 based on generating building (e.g. drums with prefix 44, 444, 883, or 1544) or IDC (e.g., RF-950) but may not contain roaster oxide.</p> <p>If the container does not contain RO (homogeneous solids) packaged in 30-gallon drums, RTR/VE must recommend an IDC change to the appropriate UN-00x IDC (where x is A, B, C, D, or 0) and an AK evaluation will be performed. AK may assign RF-751 to containers that are greater than 50% debris but may contain roaster oxide or other potentially pyrophoric material (based on characterization results).</p> <p>Containers retrieved from the EWR and IDR projects were overpacked into 83-gallon drums, cargo containers, or bins which were transferred to TSA-RE (reference IDCs RF-998 and RF-999). ^{80, 119, 120}</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Soils	Soil/Debris	S4000
S4200	RF-753	Pits 11 & 12 Legacy Dirt
WIPP Status	WIPP Candidate	
Waste Description	Dry dirt or soil generated during operations at RF prior to October 1972 and retrieved during the EWR Project and the IDR Project. Waste may have been generated from cleanup of spills or leaks at RF. Waste may also contain <50% by volume combustible debris items (e.g., coveralls, gloves). Waste does not include any loose dirt that was packaged during retrieval.	
Inner Packaging	Soil may be single or double bagged in small poly bags or directly loaded into the drum	
Drum Preparation	Poly Drum Bag / Poly Drum Bag / Fiberboard liner Up to 2 quarts Oil-Dri [®] added on top of outer sealed Poly drum bag.	
Primary Waste Parameter(s)	Soils/gravel	
Special Notes	Based on RTR results waste may contain sealed containers >4 liters (including 30-gallon drums). ²⁴³ Waste does not include loose soil retrieved from the cargo containers. WMC S4200/IDC RF-753 can ONLY be used if >50% by volume soil or gravel (natural geologic material ≤2.36 inches [60 millimeters]). If homogeneous solids are packaged in 30-gallon drum or if >50% by volume homogeneous solids (e.g., sludge), recommend change to IDC UN-00A. If >50% by volume debris, including rocks (natural geologic materials >2.36 inches [60 millimeters]), recommend change to IDC RF-750. If indeterminate, recommend IDC UN-000 and an AK evaluation will be performed.	

Heterogeneous Debris Waste	Unknown/Other Heterogeneous Debris	S5000
S5490	RF-760	RFP Debris
WIPP Status	WIPP Candidate	
Waste Description	Waste includes all RFP debris waste that was retrieved with insufficient information to assign a specific RF IDC. The waste also includes, but is not limited to loose, repackaged, and/or overpacked RFP debris waste. Waste may include combustibles (e.g., paper, rags, clothing, wood, and plastic), filter paper, CWS filters, HEPA filters, and non-combustibles (e.g., glass, scrap metal, ceramics, graphite, firebrick, equipment, and concrete). Containers of debris waste may also contain <50% by volume RFP soil or non-PCB sludge.	
Inner Packaging	Direct loaded into the waste drum	
Drum Preparation	Rigid Liner (after 1971)/Poly Drum Bag / Poly Drum Bag Rigid liners are not expected in any of the drums packaged prior to 1972.	
Box Preparation	Poly Box Bag / Cardboard Box Liner	
Primary Waste Parameter(s)	Cellulosics, plastics (waste materials), rubber, iron-based metals/alloys, aluminum-based metals/alloys, other inorganic materials, other metals.	
Special Notes	Based on RTR results, waste may contain compressed gases, sharp objects, or impenetrable lead shielding. ²⁴³ WMC S5490/IDC RF-760 can ONLY be used if >50% by volume RF debris materials. If >50% by volume homogeneous solids (e.g., sludge), recommend change to IDC UN-00A. If >50% by volume soil, recommend change to IDC UN-00C. If indeterminate, recommend change to IDC UN-000 and an AK evaluation will be performed. Reference IDC BN-523 for waste that includes RF debris waste commingled with non-RF debris from Pad 1, Cells 1 and 2; interstitial soil; homogeneous solids from other containers; oily liquids; PCB waste; or soil waste that is not from RFP. Reference IDC BN-524 for RFP debris waste that is commingled with non-RF debris waste from Pad 1, Cells 1 and 2.	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	BN-770	Debris from Multiple Generators	
WIPP Status	Potential WIPP Candidate		
Waste Description	Waste includes all debris retrieved from a location containing only waste from known WIPP-candidate generators but with insufficient information to assign a specific generator IDC. Waste may include combustibles (e.g., paper, rags, clothing, wood, and plastic), filter paper, CWS filters, HEPA filters, and non-combustibles (e.g., glass, scrap metal, ceramics, graphite, firebrick, equipment, and concrete). Containers of debris waste may also contain <50% by volume soil or non-PCB sludge.		
Inner Packaging	May be consistent with any debris IDC		
Drum Preparation	May be consistent with any debris IDC Rigid liners are not expected in any of the drums packaged prior to 1972.		
Box Preparation	May be consistent with any debris IDC		
Primary Waste Parameter(s)	Cellulosics, plastics (waste materials), rubber, iron-based metals/alloys, aluminum-based metals/alloys, other inorganic materials, other metals.		
Special Notes	<p>Waste may contain prohibited items such as compressed gases, sharp objects, or impenetrable lead shielding.</p> <p>WMC S5490/IDC BN-770 can ONLY be used if >50% by volume debris materials.</p> <p>If >50% by volume homogeneous solids (e.g., sludge), recommend change to IDC BN-511.</p> <p>If >50% by volume soil, recommend change to IDC BN-501.</p> <p>If indeterminate, recommend change to IDC UN-000 and an AK evaluation will be performed.</p> <p>Reference IDC BN-523 for debris waste that is commingled with debris from Pad 1, Cells 1 and 2; interstitial soil; homogeneous solids from other containers; oily liquids; PCB waste; or other soil waste.</p> <p>Reference IDC BN-524 for debris waste that is commingled with debris from Pad 1, Cells 1 and 2.</p>		

Solidified Inorganics		Solidified Homogeneous Solids	S3000
S3150	RF-800	First Stage Sludge – Cemented	
WIPP Status	WIPP Candidate		
Waste Description	Same as IDC RF-001 except for the immobilization process. For IDC RF-800, the sludge was co-fed into a drum with diatomite and Portland cement mixture that formed a solid monolith after curing. Waste may also contain <50% by volume cellulosic, plastic, and metal debris items (e.g., lead tape, filters). ⁶⁸		
Inner Packaging	Direct loaded into the waste drum		
Drum Preparation	Rigid Liner / Poly Drum Bag / O-Ring Drum Load-Out Bag		
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids within the drum bag. Waste may also contain sharp objects.²⁴³</p> <p>Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>May contain absorbent material in rigid liner.</p> <p>Waste is managed as containing beryllium >1% by weight.</p> <p>Historical ID typically begins with “IDRF7412.”</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490 ¹⁸	MD-801	Rags, Paper, Wood, etc.	
WIPP Status	WIPP Candidate		
Waste Description	Cloth, paper and wood products such as wipes, towels, rags, coveralls, booties and other combustible waste including wood, cardboard tubes, rubber gloves, and plastics. Waste may also contain any amount of non-combustible waste (metal, glass, filters, etc.) or small containers of MD-812, resins.		
Inner Packaging	1-gallon plastic-coated cardboard carton / Poly bag / Stacked in PVC or Poly “sleeve” bag. Up to 5 cartons per sleeve bag and up to 8 sleeve bags per drum.		
Drum Preparation	Rigid Liner / Poly Drum Bag Plywood spacer(s) typically placed between rigid liner lid and drum lid		
Primary Waste Parameter(s)	Cellulosics NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Based on RTR results, waste may contain prohibited liquids or sharp objects. ²⁴³ Some waste was packaged damp. Some waste may be packaged in ½-gallon paint or 1-gallon metal can instead of the 1-gallon carton. ^{33, 34} One-gallon cardboard carton is not a sealed container. The IDC designated represents the majority of the waste as identified by the generator; however, cartons/cans of other debris waste material are expected to be present. Only recommend IDC change if non-debris waste is identified >50% by volume of the waste or the majority of the waste is combustibles that are not packaged in cartons or cans (IDC MD-847). ¹⁹ Historical ID may include “CD” to identify inner packages.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Organics		Solidified Homogeneous Solids		S3000
S3150	RF-801	Solidified Organics		
WIPP Status	WIPP Candidate – Characterized by CCP			
Waste Description	Solidified organic liquid generated in Building 774 OASIS process by mixing solvent and oils from machining operations with Envirostone® and gypsum cement. Waste may also contain <50% by volume metal debris items. ⁷⁴			
Inner Packaging	Direct loaded into the waste drum			
Drum Preparation	Rigid Liner / Poly Drum Bag / O-Ring Drum Load-Out Bag			
Primary Waste Parameter(s)	Organic Matrix			
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum.²⁴³</p> <p>Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>May contain absorbent material in rigid liner.</p> <p>Historical ID typically begins with “IDRF0743.”</p>			

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris		S5000
S5490¹⁸	MD-802	Dry Box Gloves and O-rings		
WIPP Status	WIPP Candidate			
Waste Description	Primarily neoprene glovebox gloves, neoprene O-rings, lead-lined glovebox gloves including just the arm portion of alpha-box gloves and other combustible waste (paper, cloth, plastic, etc.). Waste may also contain any amount of non-combustible waste (metal, glass, filters, lead bricks etc.) or small containers of MD-812, resins.			
Inner Packaging	1-gallon plastic-coated cardboard carton / Poly bag / Stacked in PVC or Poly “sleeve” bag. Up to 5 cartons per sleeve bag and up to 8 sleeve bags per drum.			
Drum Preparation	Rigid Liner / Poly Drum Bag Plywood spacer(s) typically placed between rigid liner lid and drum lid			
Primary Waste Parameter(s)	Rubber (100% for gloves) assigned per CBFO (WAP Table B3-1.) NOTE: <i>Any amount of other debris waste parameters may be present.</i>			
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids, sealed containers >4 liters, or sharp objects.²⁴³</p> <p>Some waste may be packaged in ½-gallon metal paint can or a 1-gallon metal can instead of the 1-gallon carton.^{33, 34} The IDC designated represents the majority of the waste as identified by the generator; however, cartons/cans of other debris waste material are expected to be present. Only recommend IDC change if non-debris waste is identified >50% by volume of the waste or the majority of the waste is combustibles that are not packaged in cartons or cans (IDC MD-847).¹⁹</p> <p>Historical ID may include “CD” to identify inner packages.</p>			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Solidified Homogeneous Solids	S3000
S3150	RF-802	Solidified Laboratory Waste	
WIPP Status	WIPP Candidate		
Waste Description	Waste is solidified inorganic waste generated in Building 774 after 1986 by mixing aqueous chemical liquid waste generated by various operations at RF with a cement mixture.		
Inner Packaging	Direct loaded into the waste drum		
Drum Preparation	Rigid Liner / Poly Drum Bag / O-Ring Drum Load-Out Bag		
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	<p>Based on RTR results of drums of other RF bulk or direct loaded sludge, this waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum.</p> <p>Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>Some drums may contain poly bottles of solidified waste. Recommend IDC UN-00A and an AK evaluation will be performed. Other drums may not contain sludge but contain debris waste (i.e., polyethylene bottles that previously contained liquid waste). A small amount of cement was added to empty bottles before packaging into drums. Recommend change to IDC RF-337 if drum contains only bottles with small amounts of cement.</p> <p>May contain absorbent material in rigid liner.</p> <p>Replaced IDC RF-004 in 1986.</p> <p>Historical ID typically begins with "IDRF0744."</p>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490 ¹⁸	MD-803	Metal Equipment, Pipe, Valves, etc.	
WIPP Status	WIPP Candidate		
Waste Description	Stainless steel, carbon steel, and small amounts of aluminum. Waste is in the form of valves, piping, tools, and equipment. Waste also contains other noncombustible waste (HEPA filters, spun-glass liquid filters, fiberglass prefilters, glass, graphite, rust, floor sweepings, sludge, etc.). Waste may also contain any amount of combustible waste (paper, plastic, rubber, etc.). Waste may also contain small containers of mercury (see Special Notes for MD-832, Contaminated Elemental Mercury).		
Inner Packaging	1-gallon plastic-coated cardboard carton / Poly bag / Stacked in PVC or Poly “sleeve” bag Up to 5 cartons per sleeve bag and up to 8 sleeve bags per drum. A limited number of drums may contain larger waste items (in single or double plastic bags) that do not fit into cartons.		
Drum Preparation	Rigid Liner / Poly Drum Bag Plywood spacer(s) typically placed between rigid liner lid and drum lid		
Primary Waste Parameter(s)	Iron-based metals/alloys, other metals, aluminum-based metals/alloys NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Based on RTR results, waste may contain compressed gases (including aerosol cans), mercury, prohibited liquids, sealed containers >4 liters, or sharp objects. ²⁴³ Verify protection from sharp objects. This waste will likely contain lead. Some waste may be packaged in ½-gallon metal paint can or a 1-gallon metal can instead of the 1-gallon carton. ^{33, 34} The IDC designated represents the majority of the waste as identified by the generator; however, cartons/ cans of other debris waste material are expected to be present. Only recommend IDC change if non-debris waste is identified >50% by volume of the waste or the majority of the waste is combustibles that are not packaged in cartons or cans (IDC MD-847). ¹⁹ Historical ID may include “CD” to identify inner packages.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Solidified Homogeneous Solids	S3000
S3150	RF-803	Solidified DCP Sludge	
WIPP Status	WIPP Candidate		
Waste Description	Wet sludge from Building 374 was dried and mixed with cement and water to form a monolith. Vermiculite may also be present in the waste. ²²		
Inner Packaging	Direct loaded into the waste drum		
Drum Preparation	Rigid Liner / Poly Drum Bag / O-Ring Drum Load-Out Bag		
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	Based on RTR results of drums of other RF bulk or direct loaded sludge, this waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum. Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination. May contain absorbent material in rigid liner. Historical ID typically begins with "IDRF0747."		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490 ¹⁸	MD-804	Plastic, Tygon, Mani-Boots, etc.	
WIPP Status	WIPP Candidate		
Waste Description	Various types of plastic wastes (PVC, polyethylene, polypropylene, Tygon, etc) in the form of tubing, piping, sample vials, gaskets, manipulator boots, etc. Waste also includes any amount of other combustible wastes (paper, cloth, rubber gloves, etc.) and may also contain any amount of non-combustible wastes (metal, glass filters, etc.) or small containers of MD-812, Resins.		
Inner Packaging	1-gallon plastic-coated cardboard cartons / Poly bag / Stacked in PVC or Poly "sleeve" bag. Up to 5 cartons per sleeve bag and up to 8 sleeve bags per drum.		
Drum Preparation	Rigid Liner / Poly Drum Bag / Poly or O-Ring bag Plywood spacer(s) typically placed between rigid liner lid and drum lid		
Primary Waste Parameter(s)	Plastic (waste materials), Rubber NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Based on RTR results, waste may contain mercury, sealed containers >4 liters, or sharp objects. ²⁴³ Some waste may be packaged in ½-gallon metal paint can or 1-gallon metal cans instead of the 1-gallon cartons. ^{33, 34} The IDC designated represents the majority of the waste as identified by the generator; however, cartons/cans of other debris waste material are expected to be present. Only recommend IDC change if non-debris waste is identified >50% by volume of the waste or the majority of the waste is combustibles that are not packaged in cartons or cans (IDC MD-847). ¹⁹ Historical ID may include "CD" to identify inner packages.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490 ¹⁸	MD-805	Asbestos Filters	
WIPP Status	WIPP Candidate		
Waste Description	HEPA filters, primarily 6 inch diameter × 3 inch and 6 inch diameter × 6 inch. Filter media is asbestos and the frame is usually pressed wood. Some filters may have metal frame. Waste also contains filter media without frames and filter media that have been leached with nitric acid. Waste may also contain any amount of other non-combustible wastes (metal, glass, graphite, rust, floor sweepings, sludge, etc.) and may also contain any amount of combustible wastes (plastic, paper, rubber, etc.). Waste may also contain small containers of mercury (see Special Notes for MD-832, Contaminated Elemental Mercury).		
Inner Packaging	1-gallon plastic-coated cardboard box / Poly bag / Stacked in PVC or Poly “sleeve” bag Leached filter media placed in plastic bag prior to packaging in cardboard box. Up to 5 cartons per sleeve bag and up to 8 sleeve bags per drum.		
Drum Preparation	Rigid Liner / Poly Drum Bag Plywood spacer(s) typically placed between rigid liner lid and drum lid		
Primary Waste Parameter(s)	Cellulosics, Other Inorganic Materials. NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Based on RTR results, waste may contain compressed gases, mercury, sealed containers >4 liters, sharp objects, or impenetrable objects. ²⁴³ The waste parameter split for the filters should be Cellulosics (90%) and Other Inorganic Materials (10%). Some waste may be packaged in ½-gallon metal paint can or a 1-gallon metal can instead of the 1-gallon carton. ^{33, 34} The IDC designated represents the majority of the waste as identified by the generator; however, cartons/cans of other containers of debris waste material are expected to be present. Only recommend IDC change if non-debris waste is identified >50% by volume of the waste or the majority of the waste is combustibles that are not packaged in cartons or cans (IDC MD-847). ¹⁹ The cardboard cartons are not layers of containment. Historical ID may include “CD” to identify inner packages.		

Solidified Inorganics		Solidified Homogeneous Solid	S3000
S3150	RF-806	Solidified Process Solids	
WIPP Status	WIPP Candidate		
Waste Description	Various sludges, particulates (including ash, resins, etc.), and dissolution heels immobilized into solid monoliths, typically into pucks using a 1-gallon mold. Waste may also contain <50% by volume plastic debris items (e.g., broken clamshells). ⁶⁶		
Inner Packaging	Loaded into a waste area drum, or loaded into a Glovebox Load-Out drum		
Drum Preparation	Waste Area Drum - Rigid Liner / Poly drum bag / Poly drum bag Rigid Liner / Poly Drum Bag / O-Ring Drum Load-Out bag		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	Based on RTR results, waste may contain sharp objects. Based on VE results, waste may also contain sealed containers > 4 liters. ²⁴³ Cemented pucks may have been bagged out in groups of 3 to 8, or bagged out individually. Cemented resins should be identified as organic matrix. If cemented resins are >50% by volume, recommend an IDC change to RF-822.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Inorganics		Wastewater Treatment Sludges	S3000
S3121	RF-807	Bldg 374 Bypass Sludge (After 3/21/87)	
WIPP Status	WIPP Candidate		
Waste Description	Sludge generated in building 374 in support of Pu recovery activities. This sludge bypassed the dryer unit and was direct loaded into the waste drum with cement, generated after 3-21-87. Oil-Dri [®] or vermiculite may be present in the waste. ²² Waste may also contain <50% by volume rubber and metal debris items (e.g., leaded rubber glove, batteries). ⁶⁹		
Inner Packaging	Direct loaded into the waste drum		
Drum Preparation	Rigid Liner / Poly drum bag / O-Ring bag		
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids or sharp objects. ²⁴³</p> <p>Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination.</p> <p>May have 1 – 2 Liters of Oil-Dri[®] in poly drum bag.</p> <p>Building 374 Bypass Sludge should be designated as RF-807 in WTS and the historical ID typically begins with “IDRF0747.”</p> <p>Don’t confuse this waste with the cemented incinerator sludge (in the form of small pucks that are assigned RF-696 in WTS).</p> <p>This waste was previously identified as RF-807a.</p>		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490¹⁸	MD-810	Glass, Flasks, Sample Vials, Etc.	
WIPP Status	WIPP Candidate		
Waste Description	Primarily whole and broken glassware and glass vials. Majority of glassware is Pyrex. Waste also includes any amount of other non-combustible wastes (metal, HEPA filters, spun-glass liquid filters, fiberglass prefilters, graphite, rust, floor sweepings, sludge, etc.) and may also contain any amount of combustible wastes (plastic, paper, rubber, etc.). Waste may also contain small containers of mercury (see Special Notes for MD-832, Contaminated Elemental Mercury).		
Inner Packaging	1- or 2-quart metal cans / Poly bag / Stacked in PVC or Poly “sleeve” bag Up to 5 cans per sleeve bag and up to 8 sleeve bags per drum.		
Drum Preparation	Rigid Liner / Poly Drum Bag Plywood spacer(s) typically placed between rigid liner lid and drum lid		
Primary Waste Parameter(s)	Other Inorganic Materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids, sealed containers >4 liters, or sharp objects. ²⁴³</p> <p>Some waste may be packaged in ½-gallon metal paint can or a 1-gallon metal can. ^{33, 34} The IDC designated represents the majority of the waste as identified by the generator; however, cartons/cans of other debris waste material are expected to be present. Only recommend IDC change if non-debris waste is identified >50% by volume of the waste or the majority of the waste is combustibles that are not packaged in cartons or cans (IDC MD-847). ¹⁹</p> <p>Historical ID may include “CD” to identify inner packages.</p>		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Inorganics		Reprocessing Solids	S3000
S3125	MD-811	Evaporator and Dissolver Sludge	
WIPP Status	WIPP Candidate		
Waste Description	Dry evaporator and dissolver sludge in the form of powder or sand-like particles. Waste may also contain <50% by volume debris (metal, glass, filters, graphite, rust, floor sweepings, plastic, combustible, etc.). Waste may also contain small containers of mercury (see Special Notes for MD-832, Contaminated Elemental Mercury).		
Inner Packaging	1/2-gallon metal paint cans or 1-gallon metal cans or 1-gallon plastic-coated cardboard container / Poly bag / Stacked in PVC or Poly “sleeve” bag. Up to 5 containers per sleeve and up to 8 sleeve bags per drum. Variation in packaging may occur.		
Drum Preparation	Rigid Liner / Poly drum bag Plywood spacer(s) typically placed between rigid liner lid and drum lid		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	Based on RTR results, waste may contain sharp objects. ²⁴³ The evaporator and dissolver sludge looks similar to absorbent material due to its particle size. WMC S3125/IDC MD-811 can ONLY be used if >50% by volume homogeneous solids. If >50% by volume debris, recommend change to applicable MD debris IDC. If indeterminate, recommend IDC UN-00A or UN-00B and an AK evaluation will be performed. Approximately one to three 1-gallon cartons of beryllium-contaminated waste generated per year with less than 0.05 grams of beryllium per carton. Historical ID may include “CD” to identify inner packages.		

N/A		N/A	N/A
N/A	MD-812	Spent Ion Exchange Resin	
WIPP Status	N/A		
Waste Description	Spent ion exchange resin generated from plutonium recovery operations. Only present in small containers in drums of MD debris waste.		
Inner Packaging	1-gallon plastic-coated cardboard cartons / Poly bag / Stacked in PVC or Poly “sleeve” bag Up to 5 containers per sleeve.		
Drum Preparation	N/A		
Primary Waste Parameter(s)	Plastic (waste materials)		
Special Notes	Only present as small containers in drums of MD debris waste.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490 ¹⁸	MD-813	Glass Filters and Fiberglass	
WIPP Status	WIPP Candidate		
Waste Description	Primarily spun glass filters used to filter solutions (10 inch × 3 inch diameter) and fiberglass prefilters for glove box (6 inch diameter × 0.5 inch thick). Waste includes other non-combustible wastes (metal, HEPA filters, glass, graphite, rust, floor sweepings, sludge, etc.) and may also contain combustible waste (plastic, paper, rubber, etc.). Waste may also contain small containers of mercury (see Special Notes for MD-832, Contaminated Elemental Mercury).		
Inner Packaging	1-gallon plastic-coated cardboard carton / Poly bag / Stacked in PVC or Poly “sleeve” bag Up to 5 containers per sleeve and up to 8 sleeve bags per drum.		
Drum Preparation	Rigid Liner / Poly Drum Bag Plywood spacer(s) typically placed between rigid liner lid and drum lid		
Primary Waste Parameter(s)	Other Inorganic Materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Based on RTR results, waste may contain sharp objects. ²⁴³ Some waste may be packaged in ½-gallon metal paint can or a 1-gallon metal can instead of the 1-gallon carton. ^{33, 34} This debris waste was packaged using small inner containers (e.g., cardboard cartons). The IDC designated represents the majority of the waste as identified by the generator; however, cartons/cans of other debris waste material are expected to be present. Only recommend IDC change if non-debris waste is identified >50% by volume of the waste or the majority of the waste is combustibles that are not packaged in cartons or cans (IDC MD-847). ¹⁹ The cardboard boxes are not layers of containment. Historical ID may include “CD” to identify inner packages.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490¹⁸	MD-814	Graphite Waste	
WIPP Status	WIPP Candidate		
Waste Description	Graphite crucibles and electrodes from Pu casting operations or analytical procedures. The molds may be broken or whole. Pieces include spacers, electrodes, and graphite pieces from research. Waste may include any amount of other non-combustible wastes (metal, HEPA filters, glass, spun-glass liquid filters, fiberglass prefilters, rust, floor sweepings, sludge, etc.) and may also contain any amount of combustible waste (plastic, paper, rubber, etc.). Waste may also contain small containers of mercury (see Special Notes for MD-832, Contaminated Elemental Mercury).		
Inner Packaging	1-gallon cardboard carton / O-Ring bag / Poly bag ½-gallon Metal Can / Poly bag / Metal Can		
Drum Preparation	Rigid Liner / Poly Drum Bag / Poly Drum Bag Plywood spacer(s) typically placed between rigid liner lid and drum lid		
Primary Waste Parameter(s)	Other Inorganic Materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Based on RTR results, waste may contain compressed gases, mercury, or sharp objects. ²⁴³ Some waste may be packaged in ½-gallon metal paint can or a 1-gallon metal can instead of the 1-gallon carton. ^{33, 34} The IDC designated represents the majority of the waste as identified by the generator; however, cartons/cans of other debris waste material are expected to be present. Only recommend IDC change if non-debris waste is identified >50% by volume of the waste or the majority of the waste is combustibles that are not packaged in cartons or cans (IDC MD-847). ¹⁹ Historical ID may include “CD” to identify inner packages.		

Heterogeneous Debris Waste ⁹⁸		Unknown/Other Solids	S9000 ⁹⁸
S9000⁹⁸	MD-815	Classified Parts	
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal.		
Waste Description	Classified Parts		
Inner Packaging	<i>Not currently available</i>		
Drum Preparation	<i>Not currently available</i>		
Primary Waste Parameter(s)	<i>Not currently available</i>		
Special Notes	S9000 (Unknown/Other Solids) and WMCG Heterogeneous Debris Waste were assigned to IN-W325 in 1995 TWBIR. ⁹⁸ The final WMC will be determined when sufficient AK or RTR/VE data is available.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Inorganics		Solidified Homogeneous Solids	S3000
S3150	RF-817	Cemented SS and C Heels	
WIPP Status	WIPP Candidate		
Waste Description	Sand, slag, and crucible heels are the fines that had been processed through the dissolution process to remove Pu. What did not dissolve is called the heels. The heels were mixed with Portland cement and water in 1-gallon molds (clamshell halves) and allowed to cure. The waste was removed from the molds in the form of a solid monolith (puck). Waste may also contain <50% by volume plastic debris items (e.g., broken clamshells).		
Inner Packaging	O-Ring bag / small poly bag or large poly bag for the bag-out of multiple pucks at once.		
Drum Preparation	Waste Area Drum - Rigid Liner/ Poly drum bag / Poly drum bag Glovebox Load Out Drum - Rigid Liner / Poly Drum Bag / O-Ring Load-Out Drum Bag / Fiberboard liner and discs.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	Cemented pucks may have been bagged out in groups of 3 to 8, or bagged out individually.		

Solidified Inorganics		Solidified Homogeneous Solids	S3000
S3150	RF-818	Cemented Incinerator Ash	
WIPP Status	WIPP Candidate		
Waste Description	Ash from the burn chamber (IDC RF-420) of the Pu recovery incinerator. The ash was cemented by hand. Waste may also contain <50% by volume plastic debris items (e.g., broken clamshells).		
Inner Packaging	O-Ring bag / small poly bag or large poly bag for the bag out of multiple pucks at once.		
Drum Preparation	Waste Area Drum - Rigid Liner / Poly Drum Bag / Poly Drum Bag Glovebox Load-Out Drum - Rigid Liner / Poly drum bag / O-Ring bag Fiberboard liner and disc		
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	Cemented pucks may have been bagged out in groups of 3 to 8, or bagged out individually. There may be some metal or other unburned material in the pucks.		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Inorganics		Solidified Homogeneous Solids	S3000
S3150	RF-820	Cemented Soot	
WIPP Status	WIPP Candidate		
Waste Description	Soot removed during the cleanup of the off-gas system for the Pu recovery incinerator. Was cemented by hand in clamshells and allowed to cure into pucks. Waste may also contain <50% by volume plastic debris items (e.g., broken clamshells).		
Inner Packaging	O-Ring bag / small poly bag or large poly bag for the bag out of multiple pucks at once.		
Drum Preparation	Waste Area Drum - Rigid Liner / Poly Drum Bag / Poly Drum Bag Glovebox Load-Out Drum - Rigid Liner / Poly drum bag / O-Ring bag Fiberboard liner and disc		
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	Based on RTR results, waste may contain sharp objects. ²⁴³ Cemented pucks may have been bagged out in groups of 3 to 8, or bagged out individually.		

Solidified Organic		Organic Homogeneous Solids	S3000
S3211¹⁰	RF-822	Cemented Resins	
WIPP Status	WIPP Candidate		
Waste Description	Washed, spent anion and cation exchange resins cemented with Portland cement and water to form slurry, then cast into a 1-gallon mold. The cured puck was removed from the mold as a solidified monolith. ¹ Waste may also contain <50% by volume plastic debris items (e.g., broken clamshells).		
Inner Packaging	O-Ring bag / small poly bag		
Drum Preparation	Glovebox Load-Out Drum - Rigid Liner / Poly Drum Bag / O-Ring Load-Out Drum Bag / One to two Poly Drum Bags (From 1970-72)/ Cardboard may have been used to line the inner drum bag		
Primary Waste Parameter(s)	Organic Matrix		
Special Notes	Based on RTR results, waste may contain sharp objects. ²⁴³ Lead drum liners between drum and rigid liner used for cemented resin from Am recovery line. One to 2 quarts of Oil-Dri [®] on top of the poly drum bag (Vermiculite after 2/82 between the rigid liner and the top of the poly drum bag.)		

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Solidified Inorganics		Solidified Homogeneous Solids	S3000
S3150	RF-823	Cemented Miscellaneous Sludge	
WIPP Status	WIPP Candidate		
Waste Description	Various inorganic particulates and sludges were cemented and allowed to cure into pucks. ⁶⁶ The cured pucks were removed from the molds in the form of solid monoliths. ⁷⁵ Waste may also contain <50% by volume plastic debris items (e.g., broken clamshells).		
Inner Packaging	O-Ring bag / small poly bag or large poly bag for the bag-out of multiple pucks at once.		
Drum Preparation	Waste Area Drum - Rigid Liner / Poly Drum Bag / Poly Drum Bag Glovebox Load-Out Drum - Rigid Liner / Poly Drum Bag / O-Ring Load-Out Drum Bag / Fiberboard liner and disc		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	Cemented pucks may have been bagged out in groups of 3 to 8, or bagged out individually. There may be some metal or other unburned material in the pucks.		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490¹⁸	MD-824	Equipment Boxes, Non-combustible	
WIPP Status	WIPP Candidate		
Waste Description	Primarily large non-combustible waste items such as tanks (stainless and tantalum), piping, ducting, conduit, motors, pumps, gloveboxes, miscellaneous equipment, HEPA filters, glass, Plexiglas glovebox windows, and floor tile. Prior to 1981, waste also included large combustible waste items such as plastic tanks, fiberglass gloveboxes, plastic contamination control tents, etc.		
Inner Packaging	Typically single- or double-contained in plastic. Some waste items (pipes or tanks) are closed or ends sealed and placed directly into the waste box. Gloveboxes may be coated with polyurethane foam to fix contamination. Glovebox sections are either placed directly into box or wrapped in one or more layers of plastic.		
Box Preparation	Standard box / Plastic Box Liner / (prior to 1981) Cardboard Box Liner Oversize boxes (used for stainless steel glovebox sections) / no liners. Up to 100 pounds of Florco absorbent placed on bottom of box. Polyurethane foam used for shoring in oversize boxes and some standard-size boxes. Some boxes contain up to 6 smaller plywood boxes of various sizes. Other boxes contain up to 5 drums of combustible and non-combustible waste with foam sprayed in bottom of box to shore the drums.		
Primary Waste Parameter(s)	Iron-based metals/alloys, aluminum-based metals/alloys, other metals (e.g., lead), other inorganic materials, plastic (waste materials) NOTE: <i>When the type of metal cannot be determined, use iron-based metals/alloys waste parameter.²¹</i>		
Special Notes	Based on RTR results, waste may contain prohibited liquids. ²⁴³ Verify protection from sharp objects. Historical ID may include "BX" to identify package type. NOTE: <i>Pipes may be sealed at both ends with room temperature vulcanizing (RTV) rubber); therefore, 4-inch diameter pipe >19 inches long, 3-inch diameter pipe >34 inches long, and 2-inch diameter pipe >77 inches long should be identified as sealed containers >4 liters.</i>		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490	MD-825	Equipment Drums, Non-combustible	
WIPP Status	WIPP Candidate		
Waste Description	Non-combustible waste such as small tanks, piping, duct, conduit, motors, pumps, valves, HEPA filters, glass, windows, fiberglass, and floor tile. Waste may include any amount of combustible wastes such as plastic tanks. Waste may also contain small containers of mercury (see Special Notes for MD-832, Contaminated Elemental Mercury). ³⁹		
Inner Packaging	Poly bag / Poly bag O-Ring bag / Poly bag.		
Drum Preparation	Rigid Liner / Poly Drum Bag May contain up to 25 pounds of Florco absorbent in drum bag. Plywood spacer(s) typically placed between rigid liner lid and drum lid		
Primary Waste Parameter(s)	Iron-based metals/alloys, other metals, other inorganic materials NOTE: <i>When the type of metal cannot be determined, use iron-based metals/alloys waste parameter.²¹ Also any amount of other debris waste parameters may be present.</i>		
Special Notes	Based on RTR results, waste may contain lead battery (may contain prohibited liquids), compressed gases (including aerosol cans), mercury, prohibited liquids, sealed containers >4 liters, or sharp objects. ²⁴³ Some of the drums may contain waste packaged in cartons/cans. Verify protection from sharp objects. Only recommend IDC change if non-debris waste is identified >50% by volume of the waste or the majority of the waste is combustibles that are not packaged in cartons or cans (IDC MD-847). Historical ID may include "EQ" to identify waste type (equipment). NOTE: <i>Pipes may be sealed at both ends with RTV rubber; therefore, 4-inch diameter pipe >19 inches long and 3-inch diameter pipe >34 inches long should be identified as sealed containers >4 liters.</i>		

Combustibles	Debris Waste	S5000
S5000	JH-826	Combustible Equip. Boxes and Floor Swp.
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Description	<i>Not currently available</i>	
Inner Packaging	<i>Not currently available</i>	
Drum Preparation	<i>Not currently available</i>	
Primary Waste Parameter(s)	<i>Not currently available</i>	
Special Notes	TBD	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	MD-826 (before 1981)	Floor Sweepings/Rust
WIPP Status	N/A	
Waste Description	Before 1981, this IDC was used for glovebox floor sweepings and rust, packaged in cartons.	
Inner Packaging	1-gallon plastic-coated cartons/poly bags stacked in PVC or polyethylene sleeve bags. Up to 5 containers per sleeve.	
Drum Preparation	N/A	
Primary Waste Parameter(s)	Other Inorganic Materials	
Special Notes	Only present as small containers in drums of other MD debris waste.	

Heterogeneous Debris Waste	Unknown/Other Heterogeneous Debris	S5000
S5490¹⁸	MD-826 (after 1980)	Equipment Boxes, Combustible
WIPP Status	WIPP Candidate	
Waste Description	After 1980, this IDC was used for large combustible waste items, such as plastic tanks, Plexiglas shielding and windows, wood, and fiberglass glovebox sections. Waste may also contain non-combustible wastes (metal, glass, filters, etc.). Waste may also contain small containers of mercury (see Special Notes for MD-832, Contaminated Elemental Mercury).	
Inner Packaging	Typically contained in one or more plastic bags or wrapped in one or more layers of plastic sheeting. Some waste may be placed directly into waste box.	
Box Preparation	Each box lined with plastic. Up to 100 pounds of Florco absorbent placed in bottom of box.	
Primary Waste Parameter(s)	Cellulosics, Plastic (waste materials) NOTE: Any amount of <i>other debris waste parameters may be present.</i>	
Special Notes	Prior to 1981, large combustible waste items were packaged as MD-824. Historical ID may include "BX" to identify waste package type. NOTE: <i>Prior to 1981, MD-826 was used to identify rust and floor sweepings packaged in 1-gallon plastic-coated cardboard cartons which were packaged in non-combustible waste drums.</i>	

Heterogeneous Debris Waste	Debris Waste	S5000
S5000	JH-827	Solid Trash and Dry Lab Material
WIPP Status	Waste not currently included in AMWTP scope for WIPP disposal	
Waste Description	<i>Not currently summarized</i>	
Inner Packaging	<i>Not currently summarized</i>	
Drum Preparation	<i>Not currently summarized</i>	
Primary Waste Parameter(s)	<i>Not currently summarized</i>	
Special Notes	TBD	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste	Unknown/Other Heterogeneous Debris	S5000
S5490 ¹⁸	MD-827	Equipment Drums, Combustible
WIPP Status	WIPP Candidate	
Waste Description	Rubber, plastic, cellulose, may include any amount of metal equipment. Waste was too large to fit inside cartons.	
Inner Packaging	Typically contained in one or more plastic bags or wrapped in one or more layers of plastic sheeting. Some waste may be placed directly into waste drum. ^{33, 34}	
Drum Preparation	Rigid Liner / Poly Drum Bag Plywood spacer(s) typically placed between rigid liner lid and drum lid	
Primary Waste Parameter(s)	Rubber, Cellulosics, Plastic (waste materials) NOTE: <i>Any amount of other debris waste parameters may be present.</i>	
Special Notes	Some of the drums may contain waste packaged in cartons/cans. Only recommend IDC change if non-debris waste is identified >50% by volume of the waste or the majority of the waste is combustibles that are compacted (IDC MD-847). Historical ID may include "EQ" to identify waste type (equipment).	

Combustibles	Organic Debris	S5000
S5300 ⁸⁹	RF-831	Dry Combustibles
WIPP Status	WIPP Candidate	
Waste Description	Cloth, paper and wood products primarily such as wipes, towels, rags, coveralls, booties, HEPA filter frames. Waste was packaged as a dry waste. Waste may include any amount of plastic.	
Inner Packaging	O-Ring bag / Poly bag Poly bag / Poly bag	
Box Preparation	Poly Box Bag/ Cardboard Box Liner Up to 100 pounds of absorbent may have been added to box during packaging.	
Primary Waste Parameter(s)	Cellulosics	
Special Notes	Based on VE results, waste may contain sharp objects. ²⁴³	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	MD-832	Contaminated Elemental Mercury
WIPP Status	N/A	
Waste Description	Contaminated elemental mercury included in small containers in drums of MD debris waste.	
Inner Packaging	Pint size plastic bottles inside 1-gallon, plastic coated cardboard cartons or ½-gallon metals cans / Poly bag / Stacked in PVC or Poly “sleeve” bag. Up to 5 containers per sleeve.	
Drum Preparation	N/A	
Primary Waste Parameter(s)	Other Metals	
Special Notes	Only present as small containers in drums of MD debris waste. Small containers with residual mercury cannot be supercompacted. These containers may be segregated from TRU waste and be sent to SCW for treatment.	

Combustibles	Organic Debris	S5000
S5300⁸⁹	RF-832	Wet Combustibles
WIPP Status	WIPP Candidate	
Waste Description	Cloth, paper and wood products primarily such as wipes, towels, rags, coveralls, booties, HEPA filter frames. Waste was packaged as a moist waste. Waste may include any amount of plastic.	
Inner Packaging	O-Ring bag / Poly bag Poly bag / Poly bag	
Box Preparation	Poly Box Bag/ Cardboard Box Liner Up to 100 pounds of absorbent may have been added to box during packaging.	
Primary Waste Parameter(s)	Cellulosics	
Special Notes	Based on VE results, waste may contain sharp objects. ²⁴³	

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

Combustibles	Organic Debris	S5000
S5300⁸⁹	RF-833	Plastics, TRU Mixed
WIPP Status	WIPP Candidate	
Waste Description	Polypropylene, polyethylene, and PVC, in the form of empty plastic bottles, piping and tubing, plastic windows, plastic bags and plastic sheeting, tygon tubing, supplied air suits, Respirator parts and cartridges, non-leaded glovebox gloves. Waste may include any amount of cellulose.	
Inner Packaging	O-Ring bag / Poly bag or Poly bag / Poly bag	
Box Preparation	Poly Box Bag/ Cardboard Box Liner Up to 100 pounds of absorbent may have been added to box during packaging.	
Primary Waste Parameter(s)	Plastic (waste materials)	
Special Notes	TBD	

Solidified Inorganics	Inorganic Particulate Absorbents	S3000
S3113	MD-834	High Level Acid
WIPP Status	WIPP Candidate	
Waste Description	Acidic liquid wastes from Pu recovery processing. Acidic liquids were absorbed in clay material (Florco absorbent) between July 1975 and December 1976. Prior to July 1975, diatomaceous earth (Auto-Dri and/or Dri-Rite) was used but drums were subsequently repackaged and Florco added at Mound prior to shipping to INL. After 1976, caustic waste was combined with the acidic waste for processing as IDC MD-835. A limited number of drums of acidic and caustic liquid wastes were absorbed with Florco and packaged in small bottles prior to 1982. ³	
Inner Packaging	Direct loaded into drum by adding 10-gallons of liquid to 150 pounds of absorbent. A small number of drums may contain sludge waste packaged in 1/2- or 1-gallon poly bottles, which were then placed in a poly bag. See Special Notes below.	
Drum Preparation	Rigid Liner / Poly Drum Bag Plywood spacer(s) typically placed between rigid liner lid and drum lid	
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.	
Primary Waste Parameter(s)	Inorganic Matrix	
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids within the drum bag or sharp objects.²⁴³</p> <p>The waste may be packaged in up to 45 bottles of absorbed acidic and/or caustic waste per drum. Vermiculite and Florco were used as absorbents until the early 1970s, and then Auto-Dri and Sorbal were used as absorbents until a drum pressurization problem occurred due to their use. After the pressurization problem was identified, Florco was again used, beginning in July 1975 and ending in 1976. Drums of bulk or direct loaded waste with pack dates after 1976 are assumed to contain the acid liquids that were absorbed on Auto-Dri or Sorbal prior to July 1975 that were subsequently repackaged at Mound by placing half the contents into a new drum and adding Florco.³</p> <p>An AK evaluation is recommended for drums without a Poly drum bag and with gross weights over 600 pounds or large difference between drum weight and weight of Historical ID drum. For these conditions recommend an IDC change, if indeterminate, recommend IDC UN-00A and an AK evaluation will be performed.</p> <p>Historical ID may include "AC" to identify waste type (acid/caustic waste).</p>	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Inorganic Particulate Absorbents	S3000
S3113	MD-835	High Level Caustic	
WIPP Status	WIPP Candidate		
Waste Description	Caustic liquid wastes from fume scrubber system. Caustic waste was absorbed in aluminum-magnesium-iron silicate clay (Florco). Since 1976, acidic waste was combined with the caustic waste.		
Inner Packaging	Direct loaded into drum by adding 10-gallons of liquid to 150 pounds of absorbent. A small number of drums may contain sludge waste packaged in 1/2- or 1-gallon poly bottles, which were then placed in a poly bag. See Special Notes below.		
Drum Preparation	Rigid Liner / Poly Drum Bag Plywood spacer(s) typically placed between rigid liner lid and drum lid		
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	<p>Based on RTR results, drums of MD bulk or direct loaded solids waste may contain prohibited liquids. Waste may also contain sharp objects. ²⁴³</p> <p>The waste may be packaged in up to 45 bottles of absorbed acidic and/or caustic waste per drum. Vermiculite and Florco were used as absorbents until the early 1970s, then Auto-Dri and Sorbal used as absorbent until a drum pressurization problem occurred due to their use. After the pressurization problem was identified, Florco was again used, beginning in July 1975.</p> <p>An AK evaluation is recommended for drums without a Poly drum bag and with gross weights over 600 pounds or large difference between drum weight and weight of historical ID drum. For these conditions recommend an IDC change, if indeterminate, recommend IDC UN-00A and an AK evaluation will be performed.</p> <p>Historical ID may include "AC" or "CA" to identify waste type (acid/caustic or caustic).</p>		

Solidified Inorganics		Inorganic Particulate Absorbents	S3000
S3113	SR-835	SRS High Level Caustic	
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP		
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{219, 220}		
Special Notes	If waste is <50% by volume homogeneous solids or contains prohibited items, notify the AMWTP offsite waste coordinator.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Wastewater Treatment Sludges	S3000
S3121	MD-836	High Level Sludge/Cement	
WIPP Status	WIPP Candidate		
Waste Description	Cemented sludge (sometimes called solidified sludge/liquid) generated from processing all low-level, alpha contaminated liquids wastes (shower water and soap, decontamination water, cooling water, some acids and caustics, etc.) from building floor drains, laundry and labs. Waste generated by mixing approximately 40-gallons of dewatered sludge with 2 to 2-1/2 bags of Portland cement resulting in a solidified waste.		
Inner Packaging	Direct loaded into the prepared waste drum. Unmixed cement was placed on top of the sludge-cement mixture before placing the lid on the rigid liner. ⁴⁶		
Drum Preparation	Rigid Liner (no Poly Bag Liner) Plywood spacer(s) typically placed between rigid liner lid and drum lid		
Box Preparation	Drums of this waste may be direct loaded into SWBs as an alternate packaging configuration for shipment to WIPP.		
Primary Waste Parameter(s)	Inorganic Matrix		
Special Notes	<p>Based on RTR results, waste may contain prohibited liquids on top of the sludge or between the rigid liner and the drum. Waste may also contain sharp objects.²⁴³</p> <p>Some drums may include a poly drum bag as part of the packaging configuration.⁴⁷ A cement cap and variable layers of solidification have been observed in drums of cemented sludge during coring activities.⁴⁸ Generally, the sludge/cement drum weighs between 600 and 650 pounds (gross weight with >85 vol. % fill). Some drums may also contain <50% by volume plastic waste (with small quantities of liquids) on top of the cemented sludge.⁴⁵ Lighter drums (generally 300 to 400 pounds) typically contain these plastic, paper and gloves generated from cleanup operations.</p> <p>An AK evaluation is recommended for drums with poly bag liner and weights less than 400 pounds (with fill factor for sludge/cement mixture >70 vol. %), or for drums with large differences between drum weight and weight of historical ID drum. For these conditions recommend an IDC change, if indeterminate, recommend IDC UN-00A and an AK evaluation will be performed.</p> <p>Historical ID may include "SL" to identify waste type (sludge).</p>		

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490¹⁸	MD-838	<10 nCi/g Non-combustible	
WIPP Status	WIPP Candidate		
Waste Description	LSA drum of non-combustible waste may also contain some combustible waste <10 nCi/g		
Inner Packaging	Poly bag / Poly bag or placed directly in drum		
Drum Preparation	Poly Drum Bag		
Primary Waste Parameter(s)	<i>Not currently available</i>		
Special Notes	MD records indicate the drum contains combustible waste that was accidentally shipped to INL instead of commercial burial ground.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Soils	Soils/Debris	S4000
S4200	MD-842	Contaminated Soil
WIPP Status	WIPP Candidate	
Waste Description	Contaminated soil, including rocks and pebbles generated from the cleanup of spills and leaks. Soil was dry when packaged in the boxes. Waste may also contain <50% by volume debris waste (gloves and shovels) that was generated during the clean up.	
Inner Packaging	Packaged in small plastic-lined plywood boxes.	
Box Preparation	Four small boxes packaged into standard waste box with no plastic or cardboard liner. Pieces of lumber (2 × 4 inch) were used as blocking between smaller boxes.	
Primary Waste Parameter(s)	Soils/gravel	
Special Notes	<p>WMC S4200/IDC-842 can ONLY be used if >50% by volume soil, gravel, or sand (natural geologic material ≤2.36 inches [60 millimeters]).</p> <p>If >50% by volume debris (including rock >2.36 inches), recommend change to the applicable MD debris IDC.</p> <p>If indeterminate, recommend IDC UN-00B or UN-00C and an AK evaluation will be performed.</p> <p>Historical ID may include “CS” to identify waste type (contaminated soil) or “BX” to identify package type.</p>	

Soils	Soils/Debris	S4000
S4200	SR-842	SRS Mound Site Soil/Debris
WIPP Status	WIPP Candidate – Offsite Waste Solid Sampled by AMWTP and Characterized by CCP	
Waste Information	Contact the AMWTP offsite waste coordinator for descriptions of the waste, inner packaging, drum preparation, primary waste material parameters, and prohibited items. ^{219, 241}	
Special Notes	If waste is <50% by volume soil or contains prohibited items, notify the AMWTP offsite waste coordinator.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490¹⁸	MD-847	LSA<100 nCi/g Combustible	
WIPP Status	WIPP Candidate		
Waste Description	Non-line generated combustible waste such as plastic sheeting, paper, rags, gloves (rubber, cloth) plastic bottles, wood, paper suits and shoe covers. The waste may be either dry or damp. Waste may be compacted 4:1. Waste may also contain any amount of non-combustible waste such as metals, glass, and concrete. ³⁰		
Inner Packaging	Poly bag sealed with tape		
Drum Preparation	Rigid Liner Absorbent clay (up to 25 pounds) was placed in the bottom of the rigid liner. Plywood spacer(s) typically placed between rigid liner lid and drum lid.		
Primary Waste Parameter(s)	Cellulosics, Plastic (waste materials), Rubber NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Based on RTR results, waste may contain light ballasts or transformers (which may contain PCB), compressed gasses (including aerosol cans), prohibited liquids, sealed containers >4 liters, sharp objects or impenetrable objects. ²⁴³ A majority of this waste is slightly compacted combustible waste. Waste may be packaged in up to four layers. ²⁷ Historical ID may include “LC” or “LS” to identify waste type (combustible, LSA) or “LD” to identify compacted waste.		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490¹⁸	MD-848	LSA<100 nCi/g Non-combustible	
WIPP Status	WIPP Candidate		
Waste Description	Non-line generated non-combustible wastes such as tools, pipe, equipment, metal, glass, concrete, plaster, bricks, and dirt. Waste may also contain combustible wastes (paper, rags, etc.).		
Inner Packaging	Poly bag / Poly bag or placed directly in drum		
Drum Preparation	Rigid Liner / Poly Drum Bag Absorbent clay (up to 25 pounds) was placed in the bottom of the bag liner. Plywood spacer(s) typically placed between rigid liner lid and drum lid		
Primary Waste Parameter(s)	Iron-based metals/alloys, other metals, aluminum-based metals/alloys, other inorganic materials, soils/gravel NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Based on RTR results, waste may contain compressed gases (including aerosol cans), prohibited liquids, or sealed containers >4 liters, sharp objects, or impenetrable objects. ²⁴³ If indeterminate, recommend IDC UN-00B or UN-00C and an AK evaluation will be performed. If contents of the container are predominantly combustibles (plastics, paper, rubber), and not packaged in cartons, recommend change to IDC MD-847. Historical ID may include “LN” or “LS” to identify waste type (non-combustible, LSA). NOTE: <i>Per AK concerning the MD D&D process, pipes may be sealed at both ends with RTV rubber; therefore 4-inch diameter pipe >19-inches in length should be identified as sealed containers >4 liters.</i>		

Combustibles		Unknown/Other Organic Debris	S5000
S5390	RF-900	LSA Paper, Plastic, etc.	
WIPP Status	WIPP Candidate		
Waste Description	Non-line generated combustible waste including plastics, empty polyethylene bottles, surgeon’s gloves, cloth, paper, wipes, rubber, coveralls, and booties. Waste was packaged as a moist waste. Waste may also contain any amount of wood but may only contain <50% by volume glass, metal and other inorganic material debris items (e.g., welding rods, steel pipe, nuts, bolts, electric motor, flashlights, and concrete).		
Inner Packaging	Waste was typically placed directly into drum or box.		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Up to 15 pounds of cement was added to drums containing damp waste. Some drums may include a cardboard liner.		
Box Preparation	Poly Box Bag / Cardboard Box Liner		
Primary Waste Parameter(s)	Cellulosics, Plastics (waste materials), Rubber		
Special Notes	Based on RTR results, waste may contain aerosol cans, prohibited liquid, sealed containers >4 liters, sharp objects, or impenetrable objects/waste. ²⁴³ IDC RF-900 was not shipped to INL after 1975; IDCs RF-330 and RF-337 were used by RF for similar waste generated before and after this date. ^{3, 97, 152}		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris	Unknown/Other Heterogeneous Debris	S5000
S5490⁶⁵	RF-950	LSA Metal, Glass, etc.
WIPP Status	WIPP Candidate	
Waste Description	Non-line generated, non-combustible waste including electric conduit, metal piping, tools, electronic instrumentation, light bulbs, windows, office equipment, lead shielding, and structural steel. The waste may also contain any amount of combustible wastes (e.g., paper, plastic, rubber).	
Inner Packaging	Poly bag / Poly bag or placed directly into the drum or box.	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag	
Box Preparation	Poly Box Bag / Cardboard Box Liner	
Primary Waste Parameter(s)	Iron-based metals/alloys, other metals, aluminum-based metals/alloys, other inorganic materials NOTE: <i>Any amount of other debris waste parameters may be present.</i>	
Special Notes	<p>Based on RTR results, this waste may contain a wide variety of manufactured items which may contain PCB electrical items (e.g., ballasts, transformers, or capacitors). Waste may also contain aerosol cans, prohibited liquids, sealed containers > 4 liters, sharp objects, or impenetrable objects/waste.²⁴³ Bottles of soil were found in individual boxes of MLLW.¹¹⁸</p> <p>A 5-gallon bucket containing a small volume of waste suspected to be sodium nitrate was reportedly found in an individual box of MLLW.¹¹⁸</p> <p>IDC RF-950 was not shipped to INL after 1975; IDCs RF-440 and RF-480 were used by RF for similar waste generated before and after this date.^{3, 97, 152}</p> <p>Some drums that were retrieved from Pits 11 and 12 are labeled IDC “950” but are also marked “roaster oxide.” Therefore, historical IDC RF-751 is assigned at retrieval to any drum retrieved from the cargo containers that is marked "roaster oxide" and is identified as IDC “950.”</p>	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Heterogeneous Debris Waste		Unknown/Other Heterogeneous Debris	S5000
S5490⁹⁵	RF-960	Concrete, Asphalt, etc.	
WIPP Status	WIPP Candidate		
Waste Description	Waste consists primarily of concrete and asphalt (blacktop). Boxed waste was probably generated from the removal of six reinforced-concrete treatment tanks at Building 774. ³ Waste may contain any amount of metals, glass, combustibles and other construction rubble (e.g., combustibles, metal, glass, plastic, rubber, ceiling tiles, floor tiles, sheetrock). Waste may only contain <50% by volume non-debris (e.g. soil or sludge).		
Inner Packaging	Waste may be single- or double-bagged, contained in Fiberpaks, or placed directly into drums or boxes.		
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Some drums may not have rigid liner and/or Poly bags.		
Box Preparation	Poly Box Bag / Cardboard Box Liner.		
Primary Waste Parameter(s)	Other Inorganic Materials (e.g., concrete, rock, stone portion of blacktop, felt portion of tar paper), Organic Matrix (e.g., 5% for organic binder portion of asphalt blacktop; 10% for organic portion of tar paper). NOTE: <i>Any amount of other debris waste parameters may be present.</i>		
Special Notes	Based on RTR results, waste may contain light ballasts (which may contain PCBs), aerosol cans, prohibited liquid, sealed containers >4 liters, sharp objects, impenetrable objects/waste or impenetrable lead shielding. Small caliber ammunition (explosives) was identified in one drum. ²⁴³ WMC S5490/IDC RF-960 can ONLY be used if >50% by volume debris (including rock >2.36 inches [60 millimeters]). If >50% by volume soil, gravel, or sand (natural geologic material ≤2.36 inches [60 millimeters]), recommend change to IDC RF-090 or RF-990 (if waste generated in Building 774). If indeterminate, recommend IDC UN-00B or UN-00C and an AK evaluation will be performed. IDC RF-960 was not shipped to INL after 1973; IDC RF-374 was used by RF for similar waste generated before and after this date. ^{3, 152}		

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Combustibles	Wood Debris	S5000
S5320	RF-970	Wood
WIPP Status	WIPP Candidate	
Waste Description	Wood products including lumber, plywood, filter frames, and ladders. Waste may also contain <50% by volume plastic, metal, and other inorganic material debris items (e.g., wipes, nails, sheetrock). May also include Benelex. ²⁰	
Inner Packaging	O-Ring bag / Poly bag or Poly bag / Poly bag	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag	
Box Preparation	Poly Box Bag / Cardboard Box Liner	
Primary Waste Parameter(s)	Cellulosics	
Special Notes	Based on RTR results, waste may contain prohibited liquid or sharp objects. ²⁴³ IDC-970 was not shipped to INL after 1978; IDC RF-330 was used by RF for similar waste generated before and after this date. ^{3, 152}	

Solidified Inorganics	Unknown/Other Inorganic Sludges	S3000
S3129	RF-976	Building 776 Process Sludge
WIPP Status	WIPP Candidate	
Waste Description	Sludge mixed with cement from two waste collection tanks in building 776. The tanks collected effluent from the floor drains.	
Inner Packaging	Direct loaded into the waste drum	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag	
Box Preparation	Poly Box Bag / Cardboard Box Liner Up to 5 drums were packed into waste boxes.	
Primary Waste Parameter(s)	Inorganic Matrix	
Special Notes	Based on RTR results of drums of other RF bulk or direct loaded sludge, this waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum. Based on RTR results, waste may contain sharp objects. ²⁴³ It is believed that some drums began to pressurize or show signs of pressurization prior to placement in waste boxes. Per TWMISS, IDC RF-976 was only shipped to INL in 1976 and early 1977; however, it may have been generated during the period of 1971 through 1979. ^{3, 20, 97}	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Solidified Inorganics		Unknown/Other Inorganic Sludges		S3000
S3129	RF-978	Laundry Sludge		
WIPP Status	WIPP Candidate			
Waste Description	Sludge mixed with cement from two tanks that collected effluent from the laundry in building 776			
Inner Packaging	Direct loaded into the waste drum			
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / Poly drum bag			
Box Preparation	Poly Box Bag / Cardboard Box Liner Up to 5 drums were packed into waste boxes.			
Primary Waste Parameter(s)	Inorganic Matrix			
Special Notes	<p>Based on RTR results of drums of other RF bulk or direct loaded sludge, this waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum.</p> <p>It is believed that some drums began to pressurize or show signs of pressurization prior to placement in waste boxes. Stratification layers may be visible. The possibility exists that some boxes of RF-978 contain drums of RF-976 process sludge. Drum lids might have been loosened or holes might have been drilled in the drum lids prior to placement in the boxes.³</p> <p>Per TWMISS, IDC RF-978 only shipped to INL in late 1975 through 1977; however, it may have been generated during the period of 1971 through 1979.^{3, 20, 97}</p>			

Solidified Inorganics ⁹⁸		Unknown/Other Solids		S9000
S9000	RF-980	Equipment		
WIPP Status	WIPP Candidate			
Waste Description	Equipment (see special notes).			
Inner Packaging	<i>Not currently available</i>			
Drum Preparation	May contain rigid liner and poly bags.			
Primary Waste Parameter(s)	<i>Not currently available</i>			
Special Notes	<p>IDC RF-980 was only prior to 1974.</p> <p>IDRF000755884 (container 10166784) is the only drum of RF-980 identified in TWMISS. It was verified to contain only small containers of sludge.</p> <p>This IDC is being retained in case individual drums of this waste are found in Cells 1 or 2 of Pad 1.</p> <p>S3123 (Off-Gas Treatment Sludges) and WMCG Solidified Inorganics were assigned to waste IN-W187 in 1995 TWBIR based on above information that the single drum of RF-980 contains only IDC RF-290 sludge.⁹⁸ S9000 was conservatively assigned because information for this drum is unclear. The final WMC will be determined when sufficient AK or RTR/VE data is available.</p> <p>Recommend an IDC change to RF-950 or RF-960 if the majority of the drum contents are debris.</p>			

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

Soils	Soils/Debris	S4000
S4200	RF-990	Dirt
WIPP Status	WIPP Candidate	
Waste Description	Dry dirt or soil generated during the cleanup of spills or leaks. Waste also includes soil taken from around Building 774. ²⁰ Waste may also include evaporator pond sludge. Waste could be damp. Waste may also contain <50% by volume cellulosic debris items (e.g., coveralls and gloves) generated during the cleanup.	
Inner Packaging	Soil may be double bagged in small poly bags or direct loaded into the drum	
Drum Preparation	Rigid Liner (after 1971) / Poly Drum Bag / Poly Drum Bag Drums may contain a Fiberboard liner	
Primary Waste Parameter(s)	Soils/gravel.	
Special Notes	<p>Based on RTR results, waste may contain aerosol cans, prohibited liquid, sealed containers > 4 liters, sharp objects, or impenetrable waste. ²⁴³</p> <p>IDC RF-990 replaced IDC RF-090 in early 1972 and was not shipped to INL after 1975; IDC RF-374 was used by RF for similar waste generated before and after this date. ^{3, 97, 152}</p> <p>WMC S4200/IDC RF-990 can ONLY be used if >50% by volume soil, gravel, or sand (natural geologic material ≤2.36 inches [60 millimeters]).</p> <p>If >50% by volume debris, recommend change to IDC RF-960.</p> <p>If indeterminate, recommend IDC UN-00B or UN-00C and an AK evaluation will be performed.</p>	

Solidified Organics	Biological Sludges	S3000
S3221	RF-995	Sewer Sludge
WIPP Status	WIPP Candidate	
Waste Description	Sludge primarily from cleaning the stabilization ponds at Building 995 sewage treatment plant. Cement was added in layers as drum filled if the sludge was moist.	
Inner Packaging	Direct loaded into the waste drum (prior to 1975) or waste box (after 1974).	
Drum Preparation	Rigid Liner (after 1971) / Poly drum bag / Poly drum bag Portland cement added as absorbent to bottom of inner bag prior to filling and as a “cap” after filling.	
Box Preparation	Poly Box Bag / Cardboard Box Liner Up to 90 pounds Portland cement added as absorbent to bottom of box prior to filling. The sludge was “capped” with up to 90 pounds Portland cement.	
Primary Waste Parameter(s)	Organic Matrix	
Special Notes	<p>Based on RTR results of drums of other RF bulk or direct loaded sludge, this waste may contain prohibited liquids on top of the sludge, within the drum bag, or between the rigid liner and drum. Visual examination of this bulk or direct loaded sludge packaged in 55, 83, or 85-gallon drums would not provide additional relevant information to the RTR examination. May have cement in drum, rigid liner, and/or poly drum bag.</p> <p>IDC RF-995 replaced IDC RF-095 in early 1972. RFP discontinued shipping sewer sludge to INL in 1976. ³</p> <p>Historical ID typically begins with “IDRF0995.”</p> <p>Limited amounts of drums assigned IDC RF-995 were generated from Building 771 Plutonium Recovery Operations (e.g. drum prefix 0001). ³ These containers will require AKE evaluation.</p>	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	RF-998	Pits 11 & 12 Cargos and Bins
WIPP Status	N/A – Overpack Container	
Waste Description	IDC RF-998 is not to be used for characterizing waste (see Special Notes). Most of the waste in the cargos and bins was originally generated at Rocky Flats and disposed in Pits 11 and 12 at the RWMC prior to October 1972. The waste packaged in 30- and 55-gallon drums of waste was subsequently retrieved during the EWR Project and the IDR Project and placed into cargo containers or bins which were transferred to TSA-RE. Some 30-gallon drums had been historically overpacked into 55-gallon drums. During retrieval, some 55-gallon drums were overpacked into 83-gallon drums prior to placing in the bins or cargo containers. ^{80, 97, 119, 120}	
MIII Bin Configuration	Breached or externally contaminated drums were wrapped in plastic prior to placing in bins. Typically 8 drums but may contain 3 to 12 drums (including 30-, 55- and 83-gallon drums) were placed in each bin. ^{97, 119, 120}	
Cargo Container Configuration	Intact containers were placed in the cargo containers. Typically 72 drums but may contain 48 to 96 drums (including 30-, 55- and 83-gallon drums) were placed in each cargo container. Absorbent (~50 pounds) was spread on the floor of each cargo container. The floors and area extending one foot up the sidewalls of the cargo containers was waterproofed with a sealant material called Peda-Guard II. ^{97, 119, 120}	
Primary Waste Parameter(s)	N/A – overpack container	
Special Notes	IDC RF-998 is reserved to track cargos and bins packaged with drums retrieved during the EWR Project and the IDR Project and is not to be used for characterizing waste. See SD-179 for recommended IDCs for bins characterized as bins. There is a low probability that these cargo containers and bins contain drums of roaster oxide waste or drums that may contain roaster oxide (reference IDCs RF-751). ⁸⁰ One drum retrieved from Pit 12 in April 1978 was labeled “Cyanimide – cyanide poisoning.” ¹²⁰ Majority of drums contain debris waste. Some drums may contain sludge, salt or soil. Intact drums unloaded from cargos and bins are assigned the applicable IDC (e.g., RF-741 through RF-751 or UN-000). Empty cargos and bins may be PCB regulated. A PCB case-by case evaluation is required prior to waste profiling or treatment.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

N/A	N/A	N/A
N/A	RF-999	Pits 11 & 12 Cargos and Bins with Roaster Oxide
WIPP Status	N/A – Overpack Container	
Waste Description	IDC RF-999 is not to be used for characterizing waste (see Special Notes). Most of the waste in the cargos and bins was originally generated at Rocky Flats and disposed in Pits 11 and 12 at the RWMC prior to October 1972. The waste packaged in 30- and 55-gallon drums of waste was subsequently retrieved during the EWR Project and the IDR Project and placed into cargo containers or bins which were transferred to TSA-RE. Some 30-gallon drums had been historically overpacked into 55-gallon drums. During retrieval, some 55-gallon drums were overpacked into 83-gallon drums prior to placing in the bins or cargo containers. ^{80, 97, 119, 120}	
MIII Bin Configuration	Breached or externally contaminated drums were wrapped in plastic prior to placing in bins. Typically 8 drums but may contain 3 to 12 drums (including 30-, 55- and 83-gallon drums) were placed in each bin. ^{97, 119, 120}	
Cargo Container Configuration	Intact containers were placed in the cargo containers. Typically 72 drums but may contain 48 to 96 drums (including 30-, 55- and 83-gallon drums) were placed in each cargo container. Absorbent (~50 pounds) was spread on the floor of each cargo container. The floors and area extending 1 foot up the sidewalls of the cargo containers was waterproofed with a sealant material called Peda-Guard II. ^{97, 119, 120}	
Primary Waste Parameter(s)	N/A – overpack container	
Special Notes	IDC RF-999 is reserved to track cargos and bins packaged with drums retrieved during the EWR Project and the IDR Project and is not to be used for characterizing waste. See SD-179 for recommended IDCs for bins characterized as bins. There is a high probability that these cargo containers and bins contain drums of roaster oxide waste or drums that may contain roaster oxide (reference IDCs RF-751). ⁸⁰ One drum retrieved from Pit 12 in April 1978 was labeled “Cyanamide – cyanide poisoning.” ¹²⁰ Majority of drums contain debris waste. Some drums may contain sludge, salt or soil. Intact drums unloaded from cargos and bins are assigned the applicable IDC (e.g., RF-741 through RF-751 or UN-000). Empty cargos and bins may be PCB regulated. A PCB case-by case evaluation is required prior to waste profiling or treatment.	

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

5.0 REFERENCES

NOTE: *AMWTP documents such as procedures, AK Reports, AKRs, and operating instructions are cited without revision numbers or dates. The most recent revisions of these documents are available through the AMWTP Electronic Data Management System. Previous revisions are available upon request through Document Services.*

1. RPT-TRUW-12, AMWTP Waste Stream Designations
2. INEL-96/0280, Acceptable Knowledge Document for INEEL Stored Transuranic Waste –Rocky Flats Plant Waste, Rev. 3, February 28, 2003 [P368A]
3. WM-F1-82-021, Content Code Assessments for INEL Contact-Handled Stored Transuranic Wastes, October 1982 [P024A]
4. RPT-TRUW-13, Acceptable Knowledge Document for INL Stored Transuranic Waste-Mound Plant Waste
5. RPT-TRUW-04, Acceptable Knowledge Document for the Battelle Columbus Laboratories Building JN-4 Plutonium Laboratory
6. RPT-TRUW-30, Acceptable Knowledge Summary for Supercompacted Debris Waste (BN510)
7. Waste/Packaging Configuration Inconsistent with RF-IDC 001 [AKR-04-76]
8. Waste Matrix Code (WMC) assignment for the Rocky Flats IDC 310 Graphite Scarfings [AKR-05-237]
9. Waste Matrix Code (WMC) Revision and EPA HWN Assignment for the Rocky Flats IDC 372 Grit [AKR-05-239]
10. WMC Assignment for the RF IDCs 430 and 431 Resin Debris Wastes and RF IDCs 432 and 822 Cemented Resin Homogeneous Solid Waste [AKR-05-240]
11. Memorandum to Eric Schweinsberg from Carolyn Abbott, Discrepancy Report D034A - New Packaging Configuration for Rocky Flats (RF) IDC 001 (First Stage Sludge), CKA-005-2005, August 3, 2005 [D034A]
12. Memorandum to Eric Schweinsberg from Carolyn Abbott, Discrepancy Report D035A - Assessment of HWN D001 Assigned to Rocky Flats (RF) Filter Waste (IDCs 335, 338, 490), CKA-007-2005, August 9, 2005 [D035A]
13. Wrong WMC listed in WTS (for RF-IDC 393 SS&C Heel) [AKR-05-245, also addresses AKR-05-257]
14. Memorandum to Eric Schweinsberg from M. L. Johnson, Discrepancy Report D042A - Assessment of Acceptable Knowledge Information in AMWTP-RPT-TRUW-05 for Rocky Flats Metal Waste, MLJ-004-2005, September 15, 2005 [D042A]
15. Waste Parameter Assignment Change for RF IDC 432 [AKR-05-299]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

16. Letter to R. K. Flitcraft from D. Davis, Jr., Shipment of Transuranic Waste From Mound Laboratory to the NRTS, August 14, 1974 [C416A]
17. EGG-WM-6503, TRU Waste Sampling Program: Volume I – Waste Characterization, September 1985 [P015A]
18. Waste Matrix Code (WMC) Assignments for Mound Debris Wastes [AKR-05-234]
19. MD IDCs With Inner Packages, RTR Operator Requested IDC Change, Rejected by AK [AKR-05-311]
20. RFP-3186, History of Rocky Flats Waste Streams, March 10, 1982 [P090A]
21. Memorandum to Eric Schweinsberg from Micky L. Johnson, Discrepancy Report D049A - Assessment of Acceptable Knowledge Information in AMWTP-RPT-TRUW-05 for Mound Metal Waste, MLJ-007-2005, December 28, 2005 [D049A]
22. Absorbent in RF waste containers absent or present in greater or lesser amounts than described in AK [AKR-05-258, also addresses AKR-03-12, AKR-03-14, AKR-03-15, AKR-03-16, AKR-03-26 (IDC 007), AKR-03-36 R1 (IDCs 007, 803), AKR-04-42 R1, AKR-04-44, AKR-04-45, AKR-04-46, AKR-04-48 (IDC 807), AKR-04-53, AKR-04-56, AKR-04-57, AKR-04-62, AKR-04-63, AKR-04-64, AKR-04-72, AKR-04-83 (IDC 807), AKR-04-84, AKR-04-100, AKR-04-103, AKR-04-112 R1, AKR-04-113, AKR-04-116 R1, AKR-04-117, AKR-04-123 (12 quarts Oil-Dri[®]), AKR-04-125, AKR-04-131, AKR-04-157, AKR-04-158, AKR-04-159, AKR-04-174, AKR-04-182, AKR-05-245, and AKR-05-257]
23. Unexpected packaging configuration – Unexpected Liner Configuration (in RF waste) [AKR-05-238, also addresses AKR-03-25, AKR-03-35 R1, AKR-03-38 R1, AKR-03-39, AKR-04-49, AKR-04-50 R1, AKR-04-54 R1, AKR-04-58, AKR-04-61, AKR-04-65, AKR-04-66, AKR-04-67 R1, AKR-04-68, AKR-04-70, AKR-04-118, AKR-04-128, AKR-04-133, AKR-04-156, AKR-04-161, AKR-04-162, AKR-04-163, AKR-04-181, AKR-04-196, AKR-05-219]
24. Unexpected Material (plastic and metal debris) identified during RTR [AKR-04-137, also addresses AKR-03-19, AKR-04-114, AKR-04-115 R1, AKR-04-121, AKR-04-130, AKR-04-134, AKR-04-160, AKR-04-173 R1 (batteries), AKR-04-184 (glass), AKR-05-217, AKR-05-218]
25. Unexpected packaging configuration – Absence of Plywood Spacer [AKR-04-154] and Unexpected packaging configuration – Plywood Spacer (in MD waste) [AKR-05-287]
26. More than 2 layers of containment (RF) [AKR-04-47, also addresses other AKRs associated with drum bag liners or inner packaging layers including AKR-03-13, AKR-04-59, AKR-04-69, AKR-04-74 for Fiber-Paks, AKR-04-87, AKR-04-126, AKR-05-209]
27. Unexpected packaging configurations – variable drum bagging (MD Waste) [AKR-04-175, also addresses AKR-05-329]
28. Filtered bag identified as method of bag closure [AKR-03-18, also addresses AKR-03-22, AKR-04-41 R1, AKR-05-312]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

29. Twisted and tied identified as method of bag closure [AKR-04-132, also addresses AKR-05-242, R2]
30. Unexpected material (rubber debris) identified during RTR (of MD sludge waste [AKR-04-176, also addresses AKR-05-249 for leaded rubber gloves in plastic waste and AKR-05-289 R1 for metal and glass debris in combustible waste])
31. Unexpected absorbent (Vermiculite) identified in Mound Plant Waste [AKR-05-224]
32. WM-F1-81-015, Idaho National Engineering Laboratory Stored Transuranic Waste Characterization: Nonradiological Hazards Identification, September 1981 [P319A]
33. MD-20734, Technical Manual– Plutonium Processing-Material Control, Rev. 4, September 15, 1973 [P384A]
34. MD-70205, Technical Manual -TRU Waste Management, various revisions from January 1, 1976 through December 19, 1988 [P381A]
35. Letter to M. L. Mullins from Harry H. Hill, Packaging Criteria for Transuranic Waste Shipment To INEL, July 25, 1978 [C376A]
36. Inconsistent calculation of weight per pint of Florco absorbent [AKR-05-331]
37. Unexpected Material (ceiling tiles) identified during RTR (of IDC RF-374) [AKR-03-17, also addresses other wastes identified in AKR-03-11 (metal), AKR-03-27 (metal), AKR-04-73 (Poly Bottles), AKR-05-323 (floor tile), and AKR-07-469 (floor tiles)]
38. Lead Cell Batteries with Residual Liquid less than One Inch (in IDC RF-480 waste) [AKR-04-71]
39. Container of IDC MD-825 (Equipment Drums – Non-combustible) identified with inner containers of IDC MD-832 (Contaminated Mercury) [AKR-05-300]
40. Unspecified absorbent material may be present in RF-IDC 007 containers [AKR-03-37]
41. Residual Liquid in IDC RF-004 waste [AKR-04-43]
42. Catch pan added to all direct feed drums to supercompactor [AKR-05-288]
43. LA-13616-MS, Determination of H₂ Diffusion Rates through Various Closures on TRU Waste Bag-Out Bags, June 1999 [P445A]
44. IDC RF-292 on container 10026516 changed to IDC RF-290 incorrectly [AKR-05-236]
45. Unexpected materials (plastic waste) in IDC MD-836 containers with absorbents and plastic waste [AKR-06-366]
46. MD-70180, Technical Manual-Mound Facility Radioactivity Liquid Waste Disposal, January 1, 1981 through October 24, 1984 [P379A]
47. Unexpected packaging (plastic drum bag) in IDC MD-836 containers [AKR-06-374]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

48. Cement cap and variable layers of solidification discovered during coring of IDC MD-836 drums [AKR-06-375]
49. Large PCB items found in box of IDC RF-480 [AKR-06-380]
50. RPT-TRUW-60, Acceptable Knowledge Document for INL Stored Transuranic Waste-Bettis Atomic Power Laboratory
51. EDF-3395, Summary RTR Data Collected During 3,100 m³ Project, February 3, 2003 [P358A]
52. EDF-2710, Comparison of Real Time Radiography (RTR) and Visual Examination Results of the Stored Waste Examination Pilot Plant Certified Waste Sampling Program, December 17, 2002 [included in P321A]
53. ICP/EXT-04-00717, Summary of Rocky Flats Plant Waste Buried in the Subsurface Disposal Area, Edward Vejvoda, Revision 0, April 2005 [P759S]
54. RPT-TRUW-56, Acceptable Knowledge Document for INL Stored Transuranic Waste – Rocky Flats Plant
55. WMC change for IDC RF-374 from S5420 to S5490 [AKR-06-407]
56. Memorandum from Kathy Leonard to Certification Leads, et. al., SPO Guidance – 30-gallon Drum in Mound Debris Container Clarification, KL-001-2006, January 8, 2006 [C533A]
57. CCP-AK-INL-004, Central Characterization Project Acceptable Knowledge Summary Report for Rocky Flats Combustibles and Plastic Stored at the Idaho National Laboratory: Waste Stream ID-RF-S5300-A [P633A]
58. IDC Change from RF-371 to RF-374 [AKR-06-408]
59. IDC Change from RF-371 to RF-697 [AKR-06-411]
60. IDC Change from RF-480 to RF-337 [AKR-06-410]
61. Kraft Tubes in IDC RF-300 waste [AKR-04-75]
62. Unexpected Dense Waste Items in Mound Debris Drums [AKR-06-358]
63. IDCs RF-368 and RF-370 WMC Change from S5123 to S5190 [AKR-06-427]
64. IDCs RF-391 and RF-392 WMC Change from S5129 to S5190 [AKR-06-428]
65. IDC RF-950 WMC Change from S5112 to S5490 [AKR-06-429]
66. Memorandum to File from Carolyn K. Abbott, Discrepancy Report D060A - Discrepancy in Acceptable Knowledge Information for Item Description Codes 806 and 823 Waste Reported in INEL-96.0280 Report, Acceptable Knowledge Document for INEEL Stored Transuranic Waste – Rocky Flats Plant Waste, Revision 03, Dated February 28, 2003 Section 17 and Acceptable Knowledge Documents in the Acceptable Knowledge Record, CKA-001-06, August 2, 2006 [D060A]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

67. CCP-AK-INL-001, Central Characterization Project Acceptable Knowledge Summary Report for Waste Retrieved from Designated Areas within the Subsurface Disposal Area at the Idaho National Laboratory [P647A]
68. EDF-1809, Waste Stream Summary Sheet– First/Second Stage Sludge, Rev. 5, INEEL, January 6, 2003 [P226A]
69. EDF-2657, Waste Stream Summary Sheet–Building 374 Sludge, Rev. 4, INEEL, January 6, 2003 [P238A]
70. EDF-1927, Waste Stream Summary Sheet–Filters and Insulation, Rev. 5, INEEL, January 6, 2003 [P225A]
71. EDF-3019, Waste Stream Summary Sheet–Fire Brick/Coarse Fire Brick, Rev. 1, INEEL, January 6, 2003 [included in P306A]
72. EDF-1926, Waste Stream Summary Sheet–Glass (Except Raschig Rings), Rev. 3, INEEL, January 6, 2003 [P224A]
73. EDF-1686, Waste Stream Summary Sheet–Light Metals, Rev. 3, INEEL, January 3, 2003 [P222A]
74. Draft Waste Stream Profile Form INW164.001-Solidified Organics and Supporting Documentation, April 10, 2002 [U099A]
75. INEL-95/0281, Idaho National Engineering Laboratory Code Assessment of the Rocky Flats Transuranic Waste, July 1995 [P016A]
76. Bottle of waste buried in a drum of IDC 002 sludge waste [AKR-06-423]
77. Change the IDC from RF-480 to RF-440 based on RTR data [AKR-06-422]
78. IDC change incorrectly changed (from IDC RF-371) to RF-374 [AKR-07-453]
79. Individual IDC BN-508 debris waste drums generated during repackaging may not fit the WMC S5420 description, although the physical waste form (i.e., Debris Waste) is valid [AKR-05-255]
80. ICP/EXT-04-00248, Historical Background Report for Rocky Flats Plant Waste Shipped to the INEEL and Buried in the SDA from 1954 to 1971, March 2005 [P443A]
81. Letter to Ralph D. Falconer from C. K. Gaddis, Transuranic Waste Characterization Questionnaires, May 17, 1993 [C549]
82. CCP-PK-RL-101, Central Characterization Project Process Knowledge Summary Report For Hanford Plutonium Finishing Plant Contact-Handled Transuranic Debris Waste, 85-Gallon Overpacked Drums, Waste Stream: MPFPDD, Rev.2, June 4, 2010 [P853A]
83. CCP-PK-RL-102, Central Characterization Project Process Knowledge Summary Report For The Hanford 325 Building Radiochemical Processing Laboratory Contact-Handled Transuranic Debris Waste, 85 Gallon Overpacked Drums, Waste Stream: RLM325D.001, Rev. 2, June 4, 2010 [P854A]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

84. CCP-PK-RL-103, Central Characterization Project Process Knowledge Summary Report For Hanford 231-Z Building Contact-Handled Transuranic Debris Waste, 85-Gallon Overpacked Drums, Waste Stream: RLM231ZD.001, Rev. 2, June 4, 2010 [P855A]
85. MP-TRUW-8.2, Quality Assurance Project Plan
86. MP-TRUW-8.13, Collection, Review, and Management of Acceptable Knowledge Documentation
87. D075A, Identification of containers of roaster oxide (roasted depleted uranium) sent from Rocky Flats Plant to Idaho, Rev. 1, October 20, 2009 [D075A]
88. Detection of ^{137}Cs (^{90}Sr) in containers of RF Waste (IDC RF-002 Second Stage Sludge) [AKR-06-376]
89. WMC identified in WTS does not match WMC assigned to containers by CCP [AKR-06-405]
90. Recommended IDC change from RF-376 to RF-361 [AKR-05-301]
91. Interview Record of Vince Medina, Alternate packaging configuration of IDC RF graphite waste includes Kraft Tubes, September 24, 2007 [C550S]
92. IDC change from RF-374 to RF-292 [AKR-07-505]
93. IDC change from RF-374 to RF-432 [AKR-07-444]
94. IDC change from RF-336 to RF-292 [AKR-07-486]
95. IDC RF-960 WMC Change from S5420 to S5490 [AKR-07-543]
96. IDC RF-241 WMC Change from S5420 to S5490 [AKR-07-544]
97. Data from the Transuranic Waste Management Information System (TWMIS) [U127A]
98. Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report, CAO-94-1005, Rev. 2, June 1995 [P744A]
99. Letter to AK Record from Jeff Harrison, Review of Historical Rocky Flats Waste Shipment Records, January 31, 2003 [C267A]
100. Dimensions and volumes for Vollrath cans (e.g., 8801 and 8802) used to package RF waste. [U219S]
101. Memorandum to file from Carolyn K. Abbott, Acceptable Knowledge Evaluation of Containers with Historical Data Issues, CKA-001-08, February 13, 2008 [C552S]
102. MD-70205, Technical Manual - TRU Waste Management, January 1, 1976 through December 19, 1988 [P510A]
103. MD-10203, Technical Manual - Mound WIPP Certification Program For Newly Generated Contact Handled (CH) Waste, Revisions 1 and 6, June 1, 1985 and April 14, 1989 [P385A]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

104. 9257, Procedure for Packaging and Handling Pu Waste and Residue Drums, March 29, 1974 [P367A]
105. CO-1073-A, Packaging and Handling Plutonium Waste and Residues (U), August 8, 1977 [P370A]
106. CO-4034-A, Packaging Wastes for Shipment Off-Site (U), September 2, 1977 [P371A]
107. WO-4034-A, Packaging Wastes for Shipment Offsite (U), August 16, 1985 [P372A]
108. WO-4003-A, Transuranic Solid Waste Inspection (U), November 11, 1985 [P026A]
109. WO-4034-C, Packaging Wastes for Shipment Offsite (U), October 13, 1986 [P063A]
110. I-1002-C/0, Packaging and Handling Line- and Nonline-Generated Materials (U), April 26, 1988 [P008A]
111. WO-4034-F, Waste Packaging Requirements, July 8, 1988 [P064A]
112. IDO-10074, Criteria for Packaging Transuranic Waste for Receipt at the Idaho National Engineering Laboratory Radioactive Waste Management Complex Offsite Generated Waste, Rev. 1, June 1980 [P465A]
113. INST-OI-45, Drum Filter Installation
114. INST-OI-50, WMF-615 Filter Insertion Operations
115. INST-FOI-20, Supercompactor and Post-Compaction Operations
116. INST-OI-24, Packaging Radioactive Waste
117. IDC change for boxes/bins [AKR-10-688]
118. E-mail from James B. Zovi to Steve Carpenter, AMWTP Macro Rejects – PFNW, October 2, 2008 (C568S)
119. TREE-1079, Initial Drum Retrieval Interim Report (July 1974 to September 1976), D. H. Card and D. K. Wang, May 1977 [P653S]
120. TREE-1286, Initial Drum Retrieval Final Report, K. B. McKinley and J. D. McKinney, August 1978 [P652S]
121. TREE-1321, Early Waste Retrieval Final Report, J. R. Bishoff and R. J. Hudson, August 1979 [P654S]
122. TREE-1061, Containment of Transuranic Contamination at the Early Waste Retrieval Project, J. L. Harness and J. D. McKinney, January 1977 [P655S]
123. TREE-1047, Early Waste Retrieval Interim Report (July 1, 1975 to September 30, 1976), D. H. Card, February 1977 [P664A]
124. TREE-1265, Early Waste Retrieval Interim Report (1 October 1976 through 30 September 1977), K. B. McKinley and J. D. McKinney, May 1978 [P753A]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

125. IDC change from RF-241 to RF-432 [AKR-09-633]
126. CCP-PK-NTS-003, Central Characterization Project Process Knowledge Summary Report For Nevada Test Site Lawrence Berkeley National Laboratory Waste, Waste Streams: NTLBL-S5400 and NTLBL-S3900, Rev. 0, November 6, 2008 [P749A]
127. CCP-PK-NTS-001, Central Characterization Project Process Knowledge Summary Report For Nevada Test Site Lawrence Livermore National Laboratory Waste, Waste Streams: NTLNL-S5400 and NTLNL-S3900, Rev. 1, November 21, 2008 [P748A]
128. Telephone Conversation with Robert J. Hudson, retired RWMC RCT, "Drums retrieved in 1978 from Trench 5 marked 'Cluster Fragmentation Bomb'" February 26, 2009 [C617A]
129. CCP-PK-NTS-005, Central Characterization Project Process Knowledge Summary Report for Nevada Test Site Lynchburg Research Center Debris Waste, Waste Stream: NTLRC-S5400, Rev. 0, December 11, 2008 [P784A]
130. CCP-AK-INL-009, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Nevada Test Site, Lawrence Livermore National Laboratory Waste, Waste Streams: ID-NTLLNL-S5400 and ID-NTLLNL-S3900, Rev. 1, May 19, 2009 [P785A]
131. Excel Spreadsheets of Container Information from 1970, 1971 and 1972 RF Load Lists, March 24, 2009 [U215A]
132. CRDL-950351-009, A Survey of the Rocky Flats Division Waste Streams, C. E. Plock, June 30, 1972 [P124A]
133. E-mail from Dave Preston to Micky Johnson: Pre filter split, June 3, 2009 [C834A]
134. AMWTP Form-1900, DOE CH-TRU Waste Profile for NTLBL-S3900, NTS Berkeley Solidified Liquids (NT-210), April 22, 2009 [P800A]
135. AMWTP Form-1900, DOE CH-TRU Waste Profile for NTLBL-S5400, Lawrence Berkeley Heterogeneous Debris (NT-211), November 25, 2008 [P796A]
136. AMWTP Form-1900, DOE CH-TRU Waste Profile for NTLNL-S3900, LLNL Solidified Sludge and Liquids (NT-212), November 25, 2008 [P797A]
137. Interview of Dave Preston concerning variation of inner packaging of IDC NT-212 waste, April 20, 2009 [C820A]
138. AMWTP Form-1900, DOE CH-TRU Waste Profile for NTLNL-S5400, LLNL Heterogeneous Debris (NT-213), November 25, 2008 [P798A]
139. AMWTP Form-1900, DOE CH-TRU Waste Profile for NTRLC-S5400, NTS Lynchburg Heterogeneous Debris (NT-214), January 13, 2009 [P799A]
140. CCP-PK-NTS-006, Central Characterization Project Process Knowledge Summary Report for Stored Contact-Handled Transuranic Debris Waste Generated by EG&G Energy Measurements, Inc. at the North Las Vegas Facility, Waste Stream NTS-EG&G-HET, Rev. 0, April 9, 2009 [P790A]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

141. AMWTP Form-1900, DOE CH-TRU Waste Profile for NTS-EG&G-HET, NTS EG&G Heterogeneous Debris (NT-215), April 22, 2009 [P801A]
142. CCP-PK-NTS-007, Central Characterization Project Process Knowledge Summary Report for Tonopah Test Range/Roller Coaster Project Contact-Handled Transuranic Waste, Waste Stream: NTS-TTR-HET, Rev. 0, April 9, 2009 [P791A]
143. AMWTP Form-1900, DOE CH-TRU Waste Profile for NTS-TTR-HET, NTS Roller Coaster Debris (NT-216), April 22, 2009 [P802A]
144. CCP-PK-NTS-4, Central Characterization Project Process Knowledge Summary Report for Contact-Handled Transuranic Waste from Decontaminating Rocky Flats Classified Waste at the Nevada Test Site, Waste Stream: NT-RF-DECON, Rev. 0, April 15, 2009 [P792A]
145. AMWTP Form-1900, DOE CH-TRU Waste Profile for NT-RF-DECON, NTS RF Decon Debris (NT-217), April 22, 2009 [P803A]
146. CCP-PK-NTS-008, Central Characterization Project Process Knowledge Summary Report for Nevada Test Site Lawrence Livermore and Lawrence Berkeley National Laboratory Waste, Waste Stream: NTLLEBL-S5400, Rev. 0, April 15, 2009 [P793A]
147. AMWTP Form-1900, DOE CH-TRU Waste Profile for NTLLEBL-S5400, NTS Livermore and Berkeley Combined Debris (NT-218), April 22, 2009 [P804A]
148. CCP-PK-NTS-009, Central Characterization Project Process Knowledge Summary Report for Nevada Test Site Inhalation Toxicology Research Institute Waste, Waste Stream NTS-ITRI-S5310, Rev. 0, April 17, 2009 [P794A]
149. AMWTP Form-1900, DOE CH-TRU Waste Profile for NTS-ITRI-S5310, NTS ITRI Debris (NT-219), April 22, 2009 [P805A]
150. CCP-PK-NTS-010, Central Characterization Project Process Knowledge Summary Report for Nevada Test Site Visual Examination and Repackaging Building Decon and Maintenance Waste, Waste Stream: NTVERB-S5400, Rev. 0, April 17, 2009 [P795A]
151. AMWTP Form-1900, DOE CH-TRU Waste Profile for NTVERB-S5400, NTS Decon and Maintenance Debris (NT-220), April 22, 2009 [P806A]
152. Rocky Flats Plant Item Description Codes List, September 1, 1977 [U230A]
153. Rocky Flats Environmental Technology Site Backlog Waste Reassessment Baseline Book, May 5, 1994 through March 5, 2001 [P052A]
154. CCP-AK-INL-010, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Nevada Test Site, Lawrence Berkeley National Laboratory Waste, Waste Streams: ID-NTLEBL-S5400 and ID-NTLEBL-S3900, Revision 0, June 18, 2009 [P810A]
155. CCP-AK-INL-011, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Nevada Test Site, Lynchburg Research Center Debris Waste, Waste Stream: ID-NTLRC-S5400, Revision 0, August 13, 2009 [P818A]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

156. CCP-AK-INL-012, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Contact-Handled Transuranic Waste from Decontaminating Rocky Flats Classified Waste at the Nevada Test Site, Waste Stream: ID-NT-RF-DECON, Revision 0, August 4, 2009 [P819A]
157. CCP-AK-INL-013, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Nevada Test Site, EG&G Energy Measurements, INC. (North Las Vegas Facility) Debris Waste, Waste Stream: ID-NTS-EG&G-HET, Revision 1, September 15, 2009 [P809A]
158. CCP-AK-INL-014, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Tonopah Test Range/Roller Coaster Project Contact-handled Transuranic Waste, Waste Stream: ID-NTS-TTR-HET, Revision 0, July 15, 2009 [P820A]
159. CCP-AK-INL-015, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Nevada Test Site, Lawrence Livermore and Lawrence Berkeley National Laboratory Waste, Waste Stream: ID-NTLLLBL-S5400, Revision 0, August 6, 2009 [P821A]
160. CCP-AK-INL-016, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Nevada Test Site, Inhalation Toxicology Research Institute Waste, Waste Stream: ID-NTS-ITRI-S5310, Revision 0, July 27, 2009 [P822A]
161. CCP-AK-INL-017, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Nevada Test Site, Visual Examination and Repackaging Building Decon and Maintenance Waste, Waste Stream: ID-NTVERB-S5400, Revision 0, August 6, 2009 [P823A]
162. CCP-PK-GEV-400, Central Characterization Project Process Knowledge Summary Report For General Electric Vallecitos Nuclear Center Waste Stream: GEVNC.02 – Contact-Handled Hot Cell Debris Waste, Rev. 1, November 19, 2009 [P836A]
163. AMWTP Form-1900, DOE CH-TRU Waste Profile for GEVNC.02, GEVNC Hot Cell 4 Debris (IDC GV-222), April 19, 2010 [P869A]
164. INL/EXT-10-17600, Process Knowledge Summary Report for Materials and Fuels Complex Contact-Handled Transuranic Debris Waste, Rev. 2, April 10, 2010 [P842A]
165. AMWTP Form-1687, Non-AMWTP Generator Waste Profile for ID-MFC-S5490, MFC CH-TRU Heterogeneous Debris Waste (IDC AW-167), April 20, 2010 [P861A]
166. CCP-PK-LLNL-001, Central Characterization Project Acceptable Knowledge Summary Report for Lawrence Livermore National Laboratory Waste, Waste Streams: LL-M001-S5400, LL-W019-S3900, LL-T004-S3131, Rev. 1, March 22, 2010 [P839A]
167. AMWTP Form-1900, DOE CH-TRU Waste Profile for LL-W019-S3900, Lawrence Livermore National Laboratory Solidified Inorganics and Solidified Organics (LL-212), May 4, 2010 [P870A]
168. AMWTP Form-1900, DOE CH-TRU Waste Profile for LL-M001-S5400, Lawrence Livermore National Laboratory Heterogeneous Debris (LL-213), May 4, 2010 [P871A]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

169. AMWTP Form-1900, DOE CH-TRU Waste Profile for LL-T004-S3141, Lawrence Livermore National Laboratory Salts (LL-221), May 4, 2010 [P872A]
170. Integrated Waste Tracking System Material and Waste Characterization Profile No. 3526: Casting Lab TRU Waste, profile date April 1, 1999, printed on May 31, 2010 [P709A]
171. Integrated Waste Tracking System Material and Waste Characterization Profile No. 3527: Analytical Lab TRU Waste, profile date April 1, 1999, March 11, 2010. [P708A]
172. INEEL/INT-99-00081, EDF-RWMC-1048, Characterization of Wastes Generated at Argonne National Laboratory-West with IDCs of 161, 162, and 163, C. B. Ransom, April 7, 1999, Revision 0 [P312A]
173. Integrated Waste Tracking System Material and Waste Characterization Profile No. 3581T: ANL-W ALC Glassware, Paper, Poly, and Miscellaneous Hardware IDC-161 profile date May 13, 1991, May 26, 2009 [U229S]
174. Integrated Waste Tracking System Material and Waste Characterization Profile No. 3522T: AW162CH: ANL-W FMF EFL ZR-U-PU Fuel Casting Alloys Residues, profile date February 1, 1989, May 13, 2009 [U227S]
175. Integrated Waste Tracking System Material and Waste Characterization Profile No. 3523T: AW163CH: ANL-W ACL cold-Line Absorbed Liquid, Misc., Hardware and Poly, profile date September 14, 1988, May 13, 2009 [U228S]
176. Integrated Waste Tracking System Material and Waste Characterization Profile No. 2815: MLLW Generated at HFEF-WCA, profile date December 1, 1997, July 24, 2008 [P728A]
177. Integrated Waste Tracking System Material and Waste Characterization Profile No. 2815A: CH-MLLW generated at HFEF-WCA, profile date May 12, 1998, July 24, 2008 [P711A]
178. Integrated Waste Tracking System Material and Waste Characterization Profile No. 3583T: WETP Process Waste IDC-164, profile date July 24, 2002, January 12, 2009 [P729A]
179. Integrated Waste Tracking System Material and Waste Characterization Profile No. 3978P: HFEF CH-MTRU (GGE & Ash Stabilization Experiments clean-up), profile date September 9, 2003, May 13, 2009 [P712A]
180. RPT-TRUW-82, Acceptable Knowledge Document for Hanford Debris Waste Shipped to AMWTP
181. RPT-TRUW-06, AMWTP AK Document for AMWTP Waste
182. AMWTP Form-1900, DOE CH-TRU Waste Profile for MPFPDD, Hanford Plutonium Finishing Plant Heterogeneous Debris (RL-712), Rev. 1, June 8, 2010 [P883A]
183. AMWTP Form-1900, DOE CH-TRU Waste Profile for RLM325D.001, Hanford 325 Building Heterogeneous Debris (RL-714), Rev. 1, June 8, 2010 [P884A]
184. AMWTP Form-1900, DOE CH-TRU Waste Profile for RLM231ZD.001, Hanford 231-Z Building Heterogeneous Debris (RL-716), Rev. 1, June 8, 2010 [P885A]

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

185. IDC change from RF-370 to RF-337 [AKR-10-694]
186. RPT-TRUW-83, Acceptable Knowledge Document for Supercompacted Waste
187. INST-OI-68, Drum Treatment Facility Operations
188. INST-OI-88, Spill/Leak Response and Cleanup
189. MP-TRUW-8.40, INL Waste Acceptance
190. MP-TRUW-8.41, Offsite DOE CH-TRU Waste Acceptance
191. HNF-6489, Acceptable Knowledge Document for Plutonium Finishing Plant Mixed Debris Waste Stream MPFPD, Rev. 1, September 21, 2006. [P1024A]
192. HNF-36515, Acceptable Knowledge Document for the Richland Mixed Plutonium Finishing Plant Comprehensive Debris Waste Stream, RLMPFPCD, Rev. 1, June 5, 2009. [P1023A]
193. HNF-30810, Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste, RLM325D, Rev. 1, July 17, 2007.[P1025A]
194. HNF-32128, Acceptable Knowledge Document for Richland 231-Z Mixed Debris Waste RLM231ZD, Rev. 1, May 20, 2008. [P1026A]
195. AMWTP Form-1687, Non-AMWTP Generator Waste Profile for LA-CIN02.001, Los Alamos National Laboratory TA-50 Radioactive Liquid Waste Treatment Facility Homogeneous Inorganic Solid (LA-002), August 6, 2007, [P769A]
196. CCP-AK-LANL-004, Central Characterization Project for Los Alamos National Laboratory, TA-50 Radioactive Liquid Waste Treatment Facility Homogeneous Inorganic Solids, Waste Streams: LA-MIN03-NC.001 and LA-CIN02.001, Rev. 9, August 26, 2009 [P766A]
197. AMWTP Form-1687, Non-AMWTP Generator Waste Profile for LA-MIN03-NC.001, Los Alamos National Laboratory TA-50 Radioactive Liquid Waste Treatment Facility Homogeneous Inorganic Solids (LA-003), January 4, 2007 [P770A]
198. CCP-AK-LANL-006, Central Characterization Project Acceptable Knowledge Summary Report for Los Alamos National Laboratory TA-55 Mixed Transuranic Waste, Waste Streams: LA-MHD01.001, LA-CIN01.001, LA-MIN02-V.001 and LA-MIN04-S.001, Rev 9, January 27, 2009 [P817A]
199. AMWTP Form-1900, DOE CH-TRU Waste Profile for LANL-CIN01.001, Los Alamos National Laboratory Solidified Inorganics (LA-006), December 3, 2009 [P1145A]
200. CCP-AK-INL-018, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Lawrence Livermore National Laboratory Waste Streams LL0-M001-S5400, LL-W019-S3900, LL-T004-S3141, Rev. 1, May 26, 2011 [P1166A]
201. AMWTP Form-1900, DOE CH-TRU Waste Profile for SRS SR-W027-235F HOM Inorganic homogeneous solids (SR-255), October 20, 2011 [P1471A]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

202. CCP-AK-INL-019, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, General Electric Vallecitos Nuclear Center Hot Cell Debris Waste, Waste Stream: ID-GEVNC-02, Rev. 0, July 15, 2010 [P1167A]
203. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for SNL-SA-T001-S5400, Lovelace Respiratory Research Institute Heterogeneous Debris Stored at Sandia National Laboratories (SL-223), December 6, 2010 [P1146A]
204. CCP-PK-SNL-001, Central Characterization Project Process Knowledge Summary Report for Lovelace Respiratory Research Institute Contact-Handled Transuranic Waste Stored at Sandia National Laboratories/New Mexico, Waste Stream: SA-T001, Rev. 0, July 22, 2010 [P1147A]
205. CCP-AK-INL-020, Central Characterization Project Acceptable Knowledge Summary Report for Lovelace Respiratory Research Institute Contact-Handled Transuranic Waste Stored at Sandia National Laboratories/New Mexico Shipped to Advanced Mixed Waste Treatment Project, Waste Stream: ID-SDA-T001, Rev. 2, May, 16, 2011 [P1168A]
206. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for SNL-HFC-S5400, Sandia National Laboratories Hot Cell Facility Heterogeneous Debris (SL-224), December 16, 2010 [P1148A]
207. CCP-PK-SNL-002, Central Characterization Project Process Knowledge Summary Report for Sandia National Laboratories/New Mexico Hot Cell Facility Contact Handled Transuranic Waste (Debris), Waste Streams: SNL-HCF-S5400, Rev. 0, June 3, 2010 [P1149A]
208. CCP-AK-INL-021, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Sandia National Laboratories/New Mexico Hot Cell Facility Contact Handled Transuranic Waste (Debris), Waste Stream: ID-SNL-HCF-S5400, Rev. 1, May 12, 2011[P1169A]
209. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for ID-ICP-MFC-Gloves, EFL Lead Gloves (AW-225), March 14, 2011 [P1143A]
210. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for SNL-SOURCES-S5400, Radioactive Sources from Sandia National Laboratory (SL-227), March 16, 2011 [P1150A]
211. CCP-PK-SNL-003, Central Characterization Project Process Knowledge Summary Report for Sandia National Laboratories/New Mexico TRU Radioactive Sources (Debris), Waste Streams: SNL-SOURCES-S5400, Rev. 0, March 14, 2011 [P1151A]
212. AMWTP Form-1900, DOE CH-TRU Waste Profile for OR-NFS-CH-Soil Lot 1, Nuclear Fuel Services Contact-Handled Transuranic Waste Soil Stored at Oak Ridge National Laboratory (OR-250) December 7, 2008 [P772A]
213. CCP-AK-ORNL-001, Central Characterization Project for Nuclear Fuel Services Contact-Handled Transuranic Waste Stored at Oak Ridge National Laboratory, Waste Streams: OR-NFS-CH-HET and OR-NFS-CH-SOIL, Rev. 3, August 11, 2008 [P771A]
214. AMWTP Form-1900, DOE CH-TRU Waste Profile for SR-AGNS-HOM, Barnwell Solidified Inorganic Waste stored at Savannah River Site (IDC SR-251), August 9, 2010 [P1152A]

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

215. CCP-AK-SRS-11, Central Characterization Project Acceptable Knowledge Summary Report For Allied-General Nuclear Services Barnwell Nuclear Fuel Plant Transuranic Waste Stored at Savannah River Site, Rev. 1, December 13, 2007 [P923A]
216. AMWTP Form-1900, DOE CH-TRU Waste Profile for SR-W026-221F-HOM, Savannah River Site, Building 221F (SR-252), Rev. 0 December 1, 2010 [P1134S]
217. CCP-AK-SRS-3, Central Characterization Project Acceptable Knowledge Summary Report for Savannah River Site Waste Streams: SR-W026-221F-HET, SR-W026-221F-HOM, SR-W026-221F-HEPA, SR-W026-221F-HET-A, Rev. 9, April 4, 2010 [P1135A]
218. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for SR-MD-HOM-C, Mound Site Inorganic Particulates Stored at Savannah River Site (SR-253), July 26, 2011 [P1153A]
219. CCP-AK-SRS-8, Central Characterization Project for Mound Site Transuranic Waste Stored at Savannah River Site, Waste Streams: SR-MD-HET, SR-MD-SOIL, SR-MD-HOM-A, SR-MD-HOM-B, AND SR-MD-HOM-C, Rev 6, October 18, 2010 [P777A]
220. AMWTP Form-1900, DOE CH-TRU Waste Profile for SR-MD-HOM-A, Mound Plant Solidified Acid/Caustic Waste Stored at the Savannah River Site (SR-835), March 4, 2009 [P778A]
221. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for AECHHM-PK, Argonne CH Homogeneous Solids (AE-254), May 11, 2011 [P1154A]
222. CCP-PK-ANLE-001, Central Characterization Project Process Knowledge Summary Report for Argonne Contact-Handled TRU Waste From Facility Maintenance and Laboratory Operations, Waste Streams: AECHDM-PK and AECHHM-PK, Rev. 0, October 10, 2010 [P1155A]
223. RPT-670, CH2M-WG Idaho Process Knowledge Summary Report for CH TRU Waste and Mixed Low-Level Waste Generated at INTEC and RWMC Analytical Laboratories in Support of AMWTP Sampling Activities, Waste Matrix Codes: S5490 and S3900, Rev. 2, January 2010 [P891A, R0]
224. AMWTP Form-1687, Non-AMWTP Generator Waste Profile for IW-LAB-PCB-S5490, Laboratory PCB Debris (IW-526), February 8, 2010 [P1162A]
225. AMWTP Form-1687, Non-AMWTP Generator Waste Profile for IW-LAB-S5490, Laboratory Non-PCB Debris (IW-527), February 8, 2010 [P1163A]
226. AMWTP Form-1687, Non-AMWTP Generator Waste Profile for IW-LAB-S3900, Laboratory Homogeneous Solids (IW-603), February 8, 2010 [P1165A]
227. AMWTP Form-1687, Non-AMWTP Generator Waste Profile for ID-SDA-NO3, SDA Waste Containing Nitrate Salts (SD-703), June 9, 2009 [P1156A]
228. CCP-SO-INL-08-001, CCP Standing Order for ARP VE - Guidance for Roaster Oxides, May 8, 2008 [P1157A]
229. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for ID-SDA-Sludge, Inorganic and Organic Homogeneous Solids from the Subsurface Disposal Area (SD-704), Rev. 7, July 18, 2011 [P1158A]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

230. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for ID-SDA-Debris, Heterogeneous Debris from the Subsurface Disposal Area (SD-705), Rev. 5, July 18, 2011 [P1159A]
231. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for ID-SDA-SOIL, Interstitial Soil from the Subsurface Disposal Area (SD-706), Rev. 5, July 28, 2011 [P1160A]
232. AMWTP Form-1687, Non-AMWTP Generator Waste Profile for RLPUNIT, Hanford PFP Absorbed Plutonium Nitrate Solutions RLPUNIT (RL-715), June 10, 2008 [P774A]
233. TB-T-07-004, WMP Training Bulletin, Acceptable Knowledge Documentation Management, Plutonium Finishing Plant (PFP) Absorbed Plutonium Nitrate Solutions Waste Stream RLPUNIT, Rev. 2, April 9, 2008 [P773A]
234. AMWTP Form-1687, Non-AMWTP Generator Waste Profile for KEBASIN01, Hanford Grouted KE Basin North Loadout Pit Sludge (RL-720), August 16, 2007 [P776A]
235. TB-T-05-005, WMP Training Bulletin, Acceptable Knowledge Documentation Management, KE Basin Sludge Waste Stream, Rev. 1, January 19, 2006 [P775A]
236. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for LA-MIN04-S.001, Los Alamos Salt Waste from TA-55 (LA-005), May 2, 2011 [P1224A]
237. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for NRD.1, Nuclear Radiation Development Mixed Heterogeneous Debris (ND-228), Rev. 0, May 31, 2011 [P1312A]
238. CCP-PK-NRD-001, Central Characterization Project Process Knowledge Summary Report For NRD Mixed Heterogeneous Debris Waste Stream: NRD.1, Rev. 0, February 8, 2011 [P1289A]
239. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for LBNL-S5400, Lawrence Berkeley Mixed Heterogeneous Debris (LB-229), Rev. 0, May 18, 2011 [P1313A]
240. CCP-PK-LBNL-001, Central Characterization Project Process Knowledge Summary Report for Ernest Orlando Lawrence Berkeley National Laboratory Contact-Handled TRU Waste, Waste Stream: LBNL-S5400, Rev. 0, March 30, 2011 [P1290A]
241. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for SR-MD-SOIL, Mound Site Soil/Debris Stored at SRS (SR-842), Rev. 0, May 19, 2011 [P1314A]
242. 40 CFR Part 268, Land Disposal Restrictions
243. WTS queries of prohibited items identified by RTR and VE examinations, June 30, 2011 [U321A]
244. CCP-AK-INL-022, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Sandia National Laboratories/New Mexico TRU Radioactive Sources (Debris), Waste Streams: ID-SNL-SOURCES-5400, Rev. 0, May 4, 2011 [P1354A]
245. CCP-AK-INL-023, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, NRD Mixed Heterogeneous Debris, Waste Stream: ID-NRD.1, Rev. 0, July 18, 2011 [P1355A]

Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual

246. CCP-AK-INL-024, Central Characterization Project Acceptable Knowledge Summary Report for Idaho National Laboratory, Ernest Orlando Lawrence Berkeley national Laboratory Contact-Handled TRU waste, Waste Stream: ID-LBNL-S5400, Rev. 0, June 27, 2011 [P1356A]
247. AMWTP Form-1900, AMWTP Offsite Waste Stream Profile for AECHDM-PK, Argonne CH Debris (AE-230), July 19, 2011 [P1154A]
248. INEL-95/0412, Waste Description Information for Transuranically-Contaminated Wastes Stored at the Idaho National Engineering Laboratory, B. D. Raivo, G. K. Becker, T. H. Smith, and G. L. Anderson, December 1995 [P365A]
249. CCP-AK-SRS-6, Central Characterization Project Acceptable Knowledge Summary Report for Savannah River Site Waste Streams: SR-W027-235F-HET, SR-W027-235F-HOM, SR-W027-235F-HEPA, Rev. 7, September 16, 2010 [P1368A]
250. WM-PD-85-014, Waste Characterization for INEL Remote-Handled/Special-Case Stored Transuranic Wastes, November 1, 1985. [P888A]
251. IPS-2-00-00, AGHCF Operations Manual, Section 11.0, Waste Management, Rev 26, September, 16, 1996. [P1319A]
252. AMWTP Discrepancy Report regarding ANL-E waste identified under content codes AE-110 and AE-120; AE-111 and AE-121. Date XXXX, [D094A]
253. Draft Proposal for: ANL-E Alpha-Gamma Hot Cell Facility Waste Management Plan, 1975. [U314S]
254. ANL-E Radioactive Waste Management Manual, August, 1989. [U320A]
255. WM-F1-81-015, Idaho National Engineering Laboratory Stored Transuranic Waste Characterization: Non-radiological Hazards Identification, T.L. Clements, Jr., September, 1981. [P319A]
256. CCP-AK-INL-025, Rev. 1, Central Characterization Project Acceptable Knowledge Summary Report For Idaho National Laboratory, Argonne Contact-Handled Transuranic Waste from Facility Maintenance and Laboratory Operations, Waste Streams: ID-AECHDM, ID-AECHHM, December 2011. [P1379A]
257. CCP-AK-ANLE-001, Rev. 11, Central Characterization Project Acceptable Knowledge Summary Report for Argonne National Laboratory – East Contact-Handled TRU Waste, Facility Maintenance and Laboratory Operations, December 31, 2003. [P1380A]
258. CCP-AK-ANLE-500, Rev. 9, CCP-AK-ANLE-500 Central Characterization Project Acceptable Knowledge Summary Report For Argonne Remote-Handled Debris Waste, Waste Stream: AERHDM, December 2011. [P1381A]
259. CCP-PK-ANLE-001, Central Characterization Project Process Knowledge Summary Report for Argonne Contact-Handled TRU Waste From Facility Maintenance and Laboratory Operations, Waste Streams: AECHDM-PK and AECHHM-PK, August 10, 2010. [P1155A]

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

260. CCP-AK-SRS-14, Central Characterization Project; Acceptable Knowledge Summary Report for Savannah River Site; Fuel Fabrication Facility Transuranic Waste; Waste Streams: SR-W027-321-322M-HET; SR-W027-321M-HOM, Rev. 1, February 13, 2012 [P1468A]
261. Pu-DP-2.4, Loading of TRU-Contaminated Waste In DOT 7A Steel Boxes (ANL-M-III). Quality Assurance Document, Rev 1. D. E. Stellrecht, March 9, 1973. [P338A]
262. ANL-E Safety Analysis for Twenty Year Retrievable Storage of Intermediate Gamma Level Transuranic Waste, W. D. Jackson, Rev 0, June 01, 1976 [P1321A]
263. ANL-E AGHCF-SORT, Procedure for Sorting Remote-Handled TRU Waste (30-Gallon Intermediate-Level Waste), Rev 0, January 07, 1987. [P1325A]
264. AMWTP Form-1900, DOE CH-TRU Waste Profile for SR-W027-221H-HOM, SRS Solidified Inorganics from 221H (SR-256), November 7, 2011 [P1469A]
265. RPT-TRUW-79, Acceptable Knowledge Document for Materials and Fuels Complex (MFC) Waste
266. AMWTP Form-1900, DOE CH-TRU Waste Profile for SR-W027-773A-HOM, SRS Solidified Inorganics from 773A (SR-257), April 17, 2012 [P1409S]
267. AMWTP Form-1900, DOE CH-TRU Waste Profile for SR-SDD-HOM-A, SRS Solidified Organics from 211F (SR-258), April 17, 2012 [P1414S]
268. AMWTP Form-1900, DOE CH-TRU Waste Profile for SR-SDD-HOM-B, SRS Solidified Inorganics from 211F (SR-259), April 17, 2012 [P1413S]
269. CCP-AK-SRS-7, Central Characterization Project Acceptable Knowledge Summary Report for Savannah River Site Waste Streams: SR-W027-773A-HET, SR-W027-773A-HOM, Rev. 5, August 12, 2011 [P1415A]
270. CCP-AK-SR7-13, Central Characterization Project Acceptable Knowledge Summary Report for Savannah River Site, Site Deactivation and Decommissioning Waste, Waste Streams: SR-SDD-HOM-A, SR-SDD-HOM-B, SR-SDD-HET-A, Rev. 1, February 23, 2012 [P1416A]
271. RPT-TRUW-89, Acceptable Knowledge Document for Argonne National Laboratory – East (ANL-E) Waste
272. Renewal Application for Combined Special Nuclear Material and Byproduct License. Section 2, Plutonium Laboratory, September 1, 1977 [P351A]
273. RPT-TRUW-93, Acceptable Knowledge Document for Los Alamos National Laboratory Debris Waste
274. RPT-TRUW-92, Acceptable Knowledge Document for Select Idaho National Laboratory (INL) Facilities
275. E-mail from Mike Romero to Rand Watson, Waste Packaging description of LANL CMBs, Sept. 25, 2013. [C1330A]
276. DOE/LLW-217, DOE Waste Treatability Group Guidance, January, 1995 [P670A]
277. AMWTP Form-1900, DOE CH-TRU Waste Profile for SRS SR-W027-321M-HOM Solidified Organics from 321M (SR-260), May 24, 2012 [P1470A]

**Advanced Mixed Waste Treatment Project
Waste Matrix Code Reference Manual**

278. AMWTP Form-1900, AMWTP Offsite Waste Profile for SR-BCLDP.003.001 CH Hydraulic Sludge and Debris (SR-261), August 22, 2012 [P1464A]
279. CCP-AK-SRS-530, Central Characterization Project; Acceptable Knowledge Summary Report for Battelle Columbus Laboratories Decommissioning Project (BCLDP); Homogeneous Transuranic Waste from the Building JN-1 Hydraulic Room; Waste Stream: SR-BCLDP.003-Hydraulic Sludge and Debris; SR-BCLDP.003.001 – CH Hydraulic Sludge and Debris, Rev. 3, February 2012 [P1467A]
280. WDDF Number RWMC13006, Waste Determination & Disposition FORM (WDDF) for Rocky Flats Inorganic Sludge (BNINW216 and BNINW218), October 14, 2013 [P2033A]
281. CCP-AK-INL-026, Central Characterization Project Acceptable Knowledge Summary Report for INL Sludge Repackage Project Combined Sludge Waste, Waste Stream ID-SRP-S3000, Rev. 0, November 18, 2013 [P2034A]

6.0 RECORDS

Record Description	Classification
RPT-TRUW-05, Case file	Misc. Record/A16-1.2/Destroy 5 years after submittal or being superseded.